# THE ENGINEERING AND MINING JOURNAL.

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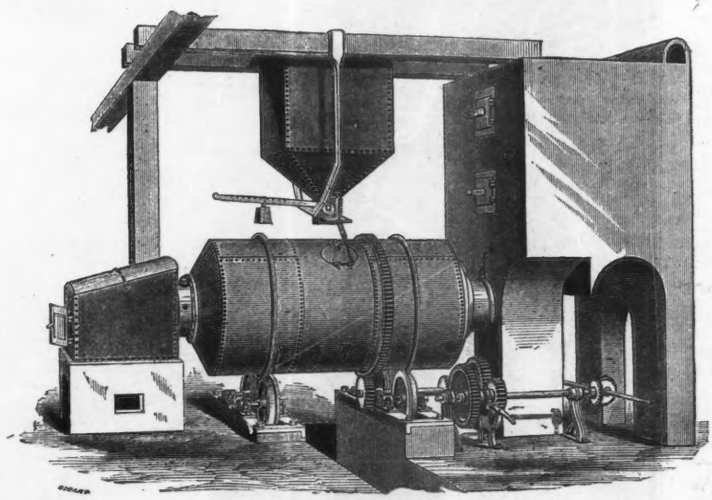
## Teat's Furnace for Roasting Ores.

This revolving furnace which we illustrate to-day is intended for the roasting, desulphurizing, chloridizing, and oxydizing of gold, silver, or other ores. It is built of light boiler iron, conical shaped ends, with cast iron hollow throats, lined with common brick, laid flatwise. The furnace revolves on four adjustable wheels, as shown in the engraving, and is driven through a gear wheel secured in sections to the periphery of the furnace in such a way as to permit its being removed and replaced without disturbing the brick lining. The driving pinion is on a counter shaft, on the other end of which are change gears worked by a clutch moving on a feather; by this means the speed of the furnace can be changed from fast to slow, or it can be stopped by simply moving the handle of the clutch. At the front end of the furnace is the fire box, 4 ft. long and 3 ft. wide, built of light iron, lined with brick and arched with fire brick. It is so constructed that it can be removed from the ash pit without disturbing its lining.

At the back or rear end of the furnace are the *dust chambers*. These are built on pillars in series or stories. The dust is easily and quickly scraped down from one chamber to the other, and finally into the furnace by means of a hoe.

The interior of the furnace is provided with a sifting conveyor, placed lengthwise with the furnace, and composed of hollow cast iron pipes and movable slotted plates fitted into the pipes in grooves. Each end of the furnace is provided with angle pieces, which, in connection with its conical shaped ends, assist in throwing the ore being roasted on to the conveyor which moves it from end to end, thoroughly mixing and at the same time sifting it through the heated air. The conveyor, which forms the axis of the furnace, offers but slight obstruction to the free passage of the air currents.



*TEAT'S FURNACE FOR ROASTING ORES.*

The furnace is charged through one or two doors, from a hopper resting on a beam scale for convenience in weighing. The ore is carried from the stamps to the hopper by means of a screw conveyor.

Between the fire box and the conical end of the furnace the throat is provided with a series of holes covered by a sliding ring. By a movement of this, the holes are opened, and such an additional amount of air is introduced as may be desired. Where the rear throat joins the flue to the dust chambers there is a hinged ring of cast iron, which, being opened, allows the removal of the furnace for repairs without displacing the masonry. Immediately above this ring is the revolving damper, which regulates the draft of the furnace. Under the arch in the rear is a door used to introduce salt or other material, and in taking sample tests from the furnace while in motion.

The furnace is heated with coal or wood, light wood being preferred. When hot it is charged and made to revolve slowly, so as to make as little dust as possible till the sulphur commences to burn, after which the speed may be increased to the maximum. After the sulphur is removed, or nearly so, if silver ores are under treatment, salt may be added in quantity from 4 or 5 per cent. for low grade ores upwards. A few revolutions mix the salt thoroughly, after which the furnace should be run very slowly, and occasionally allowed to stand for several minutes till the ore is fully chloridized, which can be ascertained by test samples. A car is then run under the furnace and the charge emptied into it in a few minutes by revolving the furnace rapidly. The furnace is then ready for another charge. The capacity of the furnace illustrated above is about two tons of gold or silver ore, and the charge is treated and the silver chloridized in from three to five hours. Some ores containing a large percentage of zinc, lead, or other base metal require as much as eight hours in chloridizing.

One man on each watch attends to the firing, charging and discharging of from five to eight furnaces, and one cord of wood per furnace for every 24 hours is sufficient in chloridizing roasting.

The total weight of iron in each furnace, including hopper, dust-chamber, plates, fire-box, etc., will not vary much from seven tons. It is no more difficult or expensive to set up than ordinary machinery.

It is claimed for this furnace that it is simple, and can be worked with less expense, and that it effects a greater saving of the precious metals, at a less cost, than any other invention in use.

Messrs. TEATS and BREED make also a patent kiln for drying ores by means of an air-blast, and an apparatus for cooling and conveying roasted ore from the furnace, heating water for amalgamation and boilers at the same time.

There have been patents obtained for the above in different foreign countries.

Further particulars can be obtained from Messrs. TEATS and BREED, care of A. L. SCOVILL & Co., No. 12 West 8th street, Cincinnati, O.

## Position and General Geology of the Gold Hill Mining Region.

By ARCH. R. MARVINE, Geologist of the Geological Survey of the Territories in 1873.*

THE accompanying map has been prepared to show the general outlines of the country in the neighborhood of the Gold Hill and Ward mining districts, in the mountains of Colorado, while the following remarks explain briefly the position of the region in relation to the surrounding country, as well as its general geology, as determined during the explorations of the summer of 1873.

Nearly parallel with, and a few miles west of, the western border of the country represented on the map, rises the main continental "divide" in a north-and-south crest, which here reaches an altitude of nearly thirteen thousand feet above the sea level. From the base of the main crest a zone of mountainous country extends eastward, which is cut through by the streams in a general east-and-west direction.

The intervening ridges are not sharp, but of a massive character, often with undulating surfaces, their higher points usually reaching in general a pretty uniform level, the ruggedness of the country being produced by the deep cañons of the stream. It is a portion of this region that is represented on the map.

At the east (near the border of the map) the region abruptly ends along a north-and-south line, the massive spurs falling to the zone of "Hog Backs," or ridges of upturned sedimentary rocks, which lie all along the base of the range.

The "red beds," probably of Triassic age, form the innermost ridge, lying directly on the Archæan rocks of the mountains. These, in going eastward, are followed by the upturned edges of Jurassic shales, the Cretaceous groups, and the great Lignitic formation, of as yet disputed Cretaceous or Eocene age, which stretches eastward, and forms the beds directly underlying the Great Plains.

Boulder City is on the border between the mountains and plains, and is reached by railroad, Denver City being but twenty-five miles to the south and east. From Boulder City, wagon roads up the various cañons give access to the mines in the mountains. South of the region represented on the map, from fifteen to twenty miles, is Clear Creek, much like the Boulder in general character, on the tributaries of which the better known mining regions of Georgetown, Idaho, Empire, Black Hawk, and Central City are situated. The rocks of the mountains, as a whole, may be considered as being composed of a great series of metamorphic rocks of Pre-silurian age. Quartzites, siliceous, micaceous, some hornblendic and garnetiferous schists, gneisses and granites, all occur; the gneiss, with possibly granite, in the greater proportion. While large areas of structureless granite abound, apparently of so-called plutonic or eruptive origin, search seldom

* These notes form part of Mr. MARVINE's Report, in the volume of Reports of the Expedition for 1873.

fails in finding spots or areas, more or less large, of gneissic or even distinct schistose structure. The fact that these usually merge imperceptibly into the surrounding granite, as well as conform in their strikes and dips to the general system of folds, as more plainly indicated perhaps in adjacent schistose regions, shows that such granites have been metamorphosed *in situ* and are indigenous rocks. At the same time sharp lines of demarcation, and the occurrence of dikes and allied features, show that the conditions of extreme metamorphism have probably been accompanied by a great softening of the rock, allowing ready molecular rearrangement into structureles forms, and producing plutonic and other appearances indicative of an exotic character. The same granite mass, approached from opposite sides, might convey entirely different impressions as to its origin; a metamorphic indigenous nature being indicated upon the one hand; an eruptive, exotic origin upon the other.

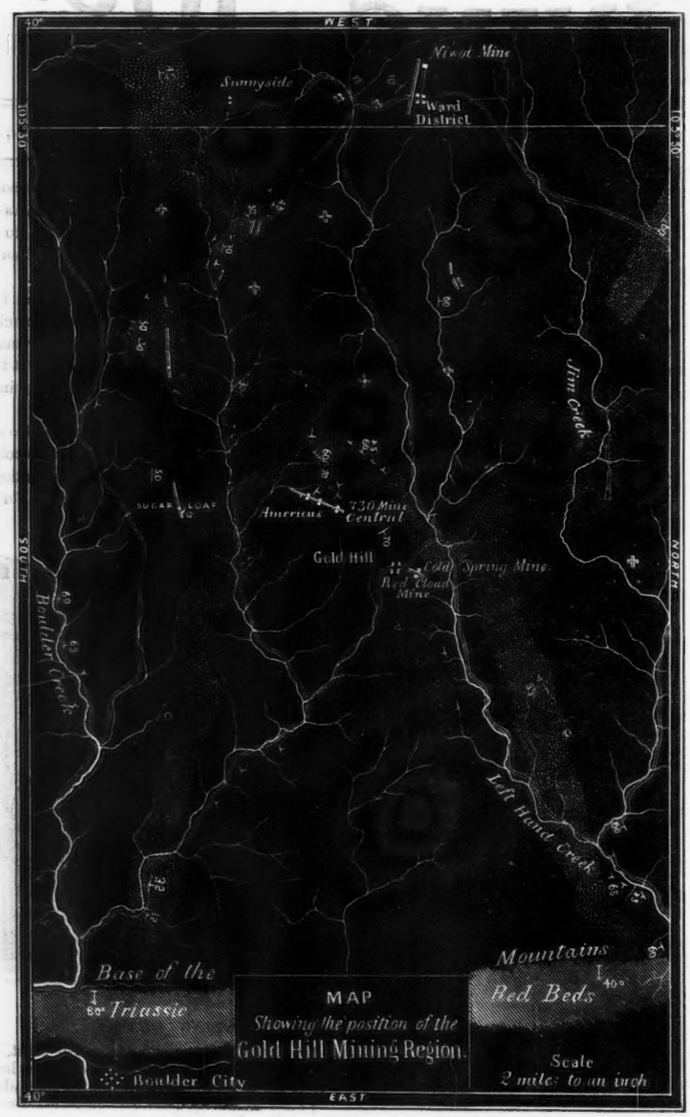
I doubt if any of the large granite masses of the mountains are of true intrusive character, and even if those smaller ones which are clearly intrusive have come from great distances below, or are other than of the same series of rocks melted by the heat accompanying the metamorphism of the mass.

Along the south side of the map, and exposed by the cañon of the Boulder Creek, are massive gray granites, with but few points where any structure was observed.

All along this half of the map the general strike is approximately east and west, with a northern dip. This is the case also along its west border. Near the north and east sides, however, the dip is south, indicating a synclinal structure running through the middle of the eastern portion of the map.

A horizon in which a definite schistose structure tends to occur is indicated by the dotted area running through the center of the map. Some of the rocks here are distinct schists, but little changed, and include very irregular red and black banded mica schists, garnetiferous, and some handsome, fine and evenly banded, gray gneissic schists. In places, this zone may be lost in granite, but opportunity did not offer to carefully follow it throughout. Most of the granite on the north edge of the map contains little if any mica, tending to a reddish granular albite. The schist zone shows the folds of the formation very well; some of them being very abrupt, and regions of great contortion. All the observed strikes and dips are indicated on the map, but the general structure of so small an area cannot be well shown separated from the surrounding country.

These schists and granites are pierced at many points by a number of dikes of felsite porphyry, which are also indicated on the map. Usually these form hills or ridges, and while some are quite long, the porphyry has apparently often found vent through less extended openings, now showing as sugar-loaf formed hills, without the direction of the dike being clearly indicated. Such forms are shown by a cross.




The porphyries vary considerably in character, but no careful comparative examination of them has as yet been made. Some contain remarkably handsome crystals of feldspar, often of the form of the Carlsbad twins.

The tellurium ores of Gold Hill occur in connection with one of these dikes. This dike varies from forty-five to thirty-five feet in width, trends about N. 30° E., and dips approximately 80° to the northwest. On the east side is the Red Cloud, on the west, the Cold Spring mine. The former, upon a casual examination, showed a well defined hanging wall, or that on the side of the porphyry; a vein usually three or four feet in width, but in places pinching out to a few inches, with at one point a clay-like "gouge;" and an indefinite foot wall on the side of the coarse gneissic granite, which is here the country rock. Some of the vein matter appeared as if a decomposed granite.

Pyrite is the most frequently occuring mineral in the dull quartzose gangue of the vein; with it there is some zinc blende. I had no opportunity to examine into any paragenetic or other feature of the tellurium ores.—[*Am. Journal of Science and Arts.*

## Mechanical Arrangements for Shipping Coal at the Bute Docks.

By Mr. JOHN MCCONNOCHIE, Cardiff.

THE principal portion of the trade carried on in the Bute Docks is the export of coal and iron, which amounted to 2,796,975 tons in the year 1873. The import trade of iron ore, timber and general merchandise amounted in the same year to 634,737 tons. The consequence of the preponderance of export is that ships arrive at the port mostly in ballast, and special provision requires to be made for the discharge and deposit of this ballast.

There are seven steam cranes for this purpose, four of which are capable of discharging 200 tons each per hour. These steam cranes discharge the ballast into railway wagons, which are conveyed a distance of about two miles to spare land, where the ballast is deposited. To provide for the safe removal of the vessels from the ballast quay to the loading berth, after the discharge of the ballast, wooden booms, weighing from five to fifteen tons each, are now fixed, one on each side of the ship, to keep it steady after the ballast has been removed. The growing use of water-ballast for steamers engaged in the coal trade at the present day has greatly facilitated the expedition of preparing vessels to receive their outward cargoes. Owing to the fluctuations of trade, when supply at times exceeds the demand, loaded wagons have to be stored in the sidings. The extent of sidings in connexion with the docks amounts to fifteen miles in length, the whole of which is at times fully occupied.

The mechanical arrangements for shipping coals at the West and East Docks are on the high level, or balanced principle. But at the New Basin, the low level system has been adopted into hydraulic tips for elevating and lifting the wagons. There are

15 Balance tips in the West Dock.
16 " " " East Dock.
3 Hydraulic tips in the East Dock and Basin.
1 " " in the entrance channel for loading in tideway.
8 " " in New Basin.
43 Total number of tips.

Each tip is capable of shipping 560 tons of coal per day of ten hours; the total shipping capacity of the Bute Docks is therefore equal to nearly 8,000,000 tons of coal per annum. In some instances as much as 200 tons of coal have been shipped per hour at the new hydraulic tips, and it is not now uncommon for a steamer of 1,500 tons to enter the basin at high water in one day, discharge her ballast, receive her outward cargo, and leave at high water the following day, the entire operation having occupied less than twenty-four hours. The balance tips consist of a suspended cradle or platform sliding in vertical guides, and supported by balance weights connected on each side by chains passing over the pulleys at the top of the framing, upon which are brakes for controlling the motion of the cradle. The balanceweights are sufficient to raise the cradle and empty wagon, but not equal to the load when a full wagon is upon it. The wagons are each discharged from an end door into an inclined shoot extending over the hatchway of the ship, and having screens in the bottom for separating the small coal. The wagon is tipped for this purpose by hooking a suspending chain on to the tail end, and then lowering the platform by means of a brake, until the wagon is tipped sufficiently for discharging the coal. The brake is then released, and the cradle and empty wagon rise to the top, and the wagon is run off into a siding; the platform is again ready to receive another loaded wagon. In discharging the wagon by this means a height of 9 feet is lost by having to lower the cradle for tipping the wagon, and a gradual increase in the size of ships to be loaded rendered it necessary to prevent this loss of height in the tips in order to raise the shoots to the level required by the higher decks of the ships. This was effected by raising the tail end of the wagon for tipping it instead of lowering the cradle, the tail end being hauled up by a winch, worked by men.

This tedious process was subsequently superseded with great advantage by a hydraulic lift, consisting of a simple Armstrong crane cylinder, with 9 in. ram and double pulley connected to the tipping chain, which plan is now in general use in the balance tips at both the West and East Docks. The first balance tips constructed in the West Docks received the wagons on the cradle at the level of 18 ft. above the quay, but the continued increase in the size of the ships to be loaded has necessitated the raising of the railway level, and the framing of the tips 2 ft. higher, making the level for the wagons at the West Dock 21 ft. above the dock crossing, or 28 ft. above the water. The coal tips at the East Dock were originally constructed at this higher level, and in consequence of further increase in the size of the ships to be loaded, the height of the additional tips recently constructed has been further increased 6 ft., making 29 ft. height above the dock coping. It is necessary to adjust the level of the shoot to the actual height of each ship, so that no greater height of fall is given to the coal in any case than is necessary for getting it into the hold, in order to reduce the breakage of the coal as much as possible; and for this purpose the butt of the shoot where attached to the frame of the tip is made to slide in vertical grooves, and is supported by vertical chains, which can be raised or lowered by a hand winch, the greater portion of the weight being counterpoised by a balance weight. The point of the shoot is also carried by similar adjustable chains, so that the inclination as well as height of the shoot can be changed as desired.

When the Great Western Railway came into Cardiff on the low level crossing

below the other railways, and with the rails at the level of the quay, it was necessary to provide means of raising coal wagons from that level to a height sufficient for discharging them into ships, and for this purpose the Armstrong hydraulic tips were adopted. The first of these hydraulic tips was made with timber framing, but the latter ones are entirely of iron. The cradle that carries the wagon is raised by a vertical hydraulic ram, 12 in. in diameter, and 20 ft. in length of stroke, and slides in guides at the four corners. The loaded wagon is raised upon this cradle to the level of the shoot, and the center portion of the cradle with the rails upon which the wagon rests forms a tipping frame, which is pivoted at the front of the cradle, and is tipped with the wagon upon it by means of a second hydraulic cylinder below the cradle and attached to it. This cylinder oscillates on trunnions to follow the motion of the tipping frame, receiving its supply of water through one trunnion from the main center cylinder, and exhausting through the other trunnion. The whole working is conveniently managed by a man standing on a side platform at the top of the framing with the several hydraulic levers close at hand. The raising and lowering of the shoots for adjusting its height and inclination is effected by a simple self-acting means that entirely dispenses with the hand labor required in the balanced tips and the consequent loss of time. Two short arms are made to project from the platform, one at each side, under the butt end of the shoot, and in the rising of the cradle the shoot is by this means carried up with it to any desired level, and it is held there by a weighted paul falling into a vertical rack fixed upon the frame at each side of the shoot; or by holding these pauls disengaged from the racks the shoot can be lowered with the cradle to any lower level. The shoot is secured in addition by a safety chain on each side, which is fixed by a clip in the new position. The two arms that lift the shoot are balanced so as to hang vertically and clear of the shoot when not in use, and when required they are thrown into action by pulling a small chain. The point of the shoot is raised or lowered in a similar manner by means of chains carried over pulleys at the top of the framing, and brought down the center of the framing one at each side, where they are secured to the frame by clips at the desired level. When required to be altered these chains are put upon strong hooks fixed at the edge of the cradle, and then by raising or lowering the cradle the point of the shoot is drawn up or lowered as desired, and the chains are pinned again in the new position.

As the South Wales coal is of a brittle character, it is found necessary to take special precautions for reducing the loss by breakage that occurs in discharging coal wagons into the ship holds, and for this purpose an anti-breakage crane has been applied with great success, and is now in general use. This is a square iron bucket holding one ton of coal, made hopper shaped, with a hinged flap for discharging at the bottom; it is suspended from an independent light jib crane, fixed at one side of the tip frame, having hydraulic lifting and turning motions. In commencing the loading of a ship, this bucket is filled from the shoot, and then lowered to the bottom of the hold, and emptied by pulling up the bolt that secures the flap-door; the process being repeated until a conical heap of coal is tipped high enough to nearly reach the hatchway. The shoot is then allowed to discharge freely, and delivers close down upon the heap, so as to prevent any breakage of the coal by a vertical drop. The point of the shoot is contracted to check the fall of the coal down the incline, so that the shoot is choked up by the coal, and the discharge from the point requires a little assistance by hand, and is thus kept under control whilst the bucket is being filled. The whole process is effected with great expedition, the discharge of the bucket in the ship's hold being made self-acting by the bolt that releases the door being fastened to a chain which is fixed on deck, and shortened to the required length as the filling proceeds. The buckets are also used with advantage for discharging ballast or ordinary merchandise, and for filling into wagons the small coal that passes the screen in the shoots on to the ship's deck.

Notwithstanding all these precautions, the proportion of slack that is found in the coal when the ship is discharged at the end of the voyage is generally too large in amount to be satisfactory, and the author considers that this is due to the want of care in trimming the coal in the ship's hold, in which process great breakage of coal is caused by the carelessness of the men. This has been practically tested at the Bute docks by loading a vessel by means of barrows filled direct from the shoot and lowered into the hold, and then wheeled at once to the far end of the hold, so as to avoid any subsequent trimming. The result was that, although some extra cost of loading was incurred, the coal was delivered in such an exceptionally good condition, that the extra cost was much more than covered by the reduction in loss from slack.

In the comparison between the balance tips and the hydraulic tips there is not much difference, either as to facility and rapidity of shipping coal, or as to cost of working when applied in the case of a fixed water level, as in the East and West Bute Docks, which are constantly kept up to the level of 1 foot below the coping by the feeder from the river Taff. In the tideway, however, outside of the docks, the hydraulic tips are, in the author's opinion, much superior to the balance tips, as they afford the means of a much greater range of working. An objection to the balance tips is the heavy embankments and staging required for bringing in the railways and sidings on the high level, and the large amount of space so occupied. This consideration led the author to adopt the low level system with the railways and sidings on the Quay level, and with hydraulic tips for the new basin, just completed, and for the subsequent contemplated docks at Cardiff, where space could not be afforded for the embankments and stagings required for balance tips. On the other hand, it has to be noticed that the hydraulic tips have the disadvantage of being liable to a stoppage in the loading of ships if anything goes wrong with the machinery, or a pressure pipe, or a single cupped leather gives way. However, during the last eight years' working of the hydraulic tips at Cardiff the writer has not experienced any difficulty of this kind; but in order to insure this, a careful watching has been kept up of the whole hydraulic machinery, especially of the cupped leathers, of which a constant register is kept of every renewal, to insure the renewal of each within safe time. After considerable experience of the working of both tips, the author considers that the balance of advantages rests with the low level system. The original balance tips were constructed for wagons with a total weight of 10 tons, being 7 tons load and 3 tons wagon; but in consequence of the gradual increase in size of wagons, the more recent balance tips were constructed for a load one half heavier, or 10 tons load, with 4½ tons wagon, making 14½ tons total, and the new hydraulic tips are constructed for lifting a total weight of 20 tons.

For expeditiously discharging or loading ships with grain or other general cargoes, a separate crane for each hatchway is very desirable, but owing to the varying distance between hatchways on different vessels, fixed cranes can not be adapted to the circumstances; and it occured to the writer to meet this difficulty, and still utilize the hydraulic power, by employing portable cranes that could be placed in any required position alongside the ship. This arrangement consists of a portable hydraulic crane that can be traversed upon a line of railway parallel to the dock wall, and is supplied with water pressure by means of a series of hydrants placed at 20 ft. distances along the dock wall, so that by jointed wrought-iron pipes and a union joint, the power can be supplied to the cranes within 10 ft. distance in any position. The details were worked out, and the crane constructed, by Sir WILLIAM ARMSTRONG & Co. It is similiar in construction to the hydraulic cranes in general use, the lifting cylinder and tackle being placed within the wrought-iron pillar of the crane, which revolves in the center of a platform that is mounted on four carrying wheels travelling on the line of railway. When the crane is in use, the platform is steadied by a screwed resting-block at each corner, and held down to the rails by clamps; a cast-iron counterweight is fixed to the block of the pillar to partially counterbalance the load lifted by the crane, and reduce the strain upon the clamps. The turning machinery is fixed on the platform, which is cleated with wood, and a house is formed at one end for the men working the crane. Two of these cranes, each to lift 46 cwt., and one smaller to lift 27 cwt., are in use at the Bute Docks, and they have proved very serviceable and satisfactory in work, and are very efficient in discharging a ship quickly by working at both hatchways at the same time.

A hydraulic hauling machine has been introduced for the purpose of drawing the wagons on and off the coal tips in the place of horse power, and turning them on the turntables. It is designed and constructed by Sir WILLIAM ARMSTRONG & Co., and consists of a hydraulic engine with a pair of double-acting cylinders working on to right-angled cranks upon a shaft to which a cupped chain wheel can be coupled by a clutch. The chain by which the wagons are hauled passes over this wheel, into the groove of which it is pressed by a guide roller; and the fall of the chain is piled down upon the floor of the pit. The engine, with the drum and guide rollers, is fixed to the under side of a cast-iron bed-plate, which is flush with the ground when the machine is in use; but it is mounted on trunnions, so that it can be turned up, when required, for examination or repair. By this arrangement, the size of the pit required for containing the machine and the cost of foundations are much reduced. The pressure water is taken to the engine through one trunnion, and the exhaust water conveyed away through the other. The admission and escape valves of the engine are placed on the trunnions, and are worked by the oscillation of the cylinders. These valves are arranged so that they can be readily removed for examination or repair. This hauling machine has proved very satisfactory and efficient in work, and its advantage in expedition of work and dispensing with horses is so decided, that a machine is about to be added to each of the hydraulic tips at the New Basin.

The engines for working the hydraulic machinery at the Bute Docks are supplied by four boilers, 25 ft. long and 5 ft. 6 in. in diameter, three of which are always kept at work, while the fourth can be used in case of accident, or when the engines are cleaning. Each double engine is capable of working up to 40 horse power, with a boiler pressure of 60 lb. per square inch. The connections with the various cranes, tips, lock-gates, &c., extend to three miles in length, and vary from three inches to five inches in diameter along the mains, and are constantly under the pressure of 700 lb. per square inch, the whole having been supplied by Sir W. ARMSTRONG &] Co.—[*Engineering.*

## NEW PUBLICATIONS.

*Manual of Patent Law*, with an Appendix upon the Sale of Patents. By WM. EDGAR SIMONDS, Hartford, Conn.

This Manual contains a large, amount of useful, though not necessarily original, information. Of course, in works of this kind, it is only general information that is sought, inventors will go to their own solicitors when they want to have a patent taken out; but the information which this book gives, may be serviceable to them in their preliminary arrangements.

Some parts of the book are open to very serious objection (we refer particularly to the ethics of patent sellers), and much of the information about foreign patents appears to be somewhat old.

## Notes.

**Bismuth.**—A discovery of a source of bismuth has been made in France. The spot is near Mapmac (Correze). The metal occurs principally as oxide or hydrocarbonate, though other bismuth minerals are found there, as native sulphide. The method pursued for extraction is breaking the ores to coarse sand, exhausting with hydraulic acid, precipitating the metal from the solution by iron, drying, mixing with charcoal, fusing at as low a temperature as possible, and casting.

**The Cape Breton Company** is pushing the work on its railroad to Louisburg, and expects both it and the pier will be ready for operation in April next. The pier will be in 30 feet water, and the Company expects to load 1,000 tons of coal per day to commence with. One of the officers of the Company says:

"We believe Louisburg is destined to become a great coal and iron, and therefore commercial center, and being at the embouchure of the St. Lawrence, and a manufacturing harbor, must become the grain depot of the St. Lawrence waterway for transmission to Europe; and in a few years the passenger highway also, when we have our through railway, and steamers to England in five and a half days. The people of New York will not like this view, perhaps, but they can spare us all we can take."

**Good Blast Furnace Work.**—The Dunbar Furnace, Pa., 58 feet high, 15 ft. 6 in. bosh, with a cubic capacity of about 6,800 feet, has done even better than the Isabella Furnace, reported a few weeks ago. The average richness of ores used at Dunbar, running through many months, is 44 per cent. The yield for the last four weeks was as follows:

| | | |
|---|---|---|
| Week ending July 26th | 280 tons of | 2,268 lb. |
| Week ending August 2d | 284 " | " |
| Week ending August 9th | 284 " | " |
| Week ending August 16th | 302 " | " |

The entire product is a soft, very strong No. 1 forge. The uniform charge is:

| | |
|---|---|
| Coke | 875 lb. |
| Ores | 1,180 " |
| Limestone | 650 " |

# THE ENGINEERING AND MINING JOURNAL.

**NEW YORK, SATURDAY, AUGUST 29, 1874.**

ROSSITER W. RAYMOND, Ph. D., Editor.
RICHARD P. ROTHWELL, C. E., M. E.,
Editor of the Coal and Iron Department.

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***It is the Official Organ*** of the American Institute of Mining Engineers, and it alone publishes the valuable papers read before that influential society.

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THE invention and introduction of revolving furnaces constitutes an important progress in our American metallurgy, and we have pleasure in giving our readers a full description of one of the latest and best forms. The advertisement of Messrs. TEATS & BREED will be found in another column.

WE commend to the attention of our shippers of both anthracite and bituminous coals the very interesting description of machinery for handling coal at the Bute Docks, Cardiff, South Wales. These are probably the most perfect appliances in the world, and being quite new, doubtless embody the very latest improvements in use in England. There is certainly room for improvement in the manner of loading coal at most, if not all, our shipping ports, and those interested will find the subject worthy of their most serious attention. Personally or through the columns of the JOURNAL, we will be glad to furnish such further information as may be desired on this important subject.

## Wanted—A Coal and Iron Editor.

A few weeks ago, we corrected some misstatements concerning the production of coal and iron in West Virginia, which appeared in the *Iron Age*. The fact that they were made *editorially* is of little consequence. That journal plumes itself on *not* having a "Coal and Iron Editor," and its editorial page is virtually one of its departments of "selected matter," very thinly disguised. It now undertakes to maintain the assertions which it too hastily scissored from other publications ; and, in this attempt, betrays its own inability to discriminate between authorities, to comprehend what is meant by the writers it quotes, or to appreciate the difference between the ideal estimates of a prospectus and the actual cost of producing coal and iron.

What the *Iron Age* said, or copied, or thought it copied, was this, concerning the Kanawha coal :

"The facilities for mining this coal are, from its position and depth, unequalled ; and it has been estimated that an expenditure of $2,000 will open a mine capable of producing 1,000 tons weekly, or 52,000 tons per annum."

Furthermore, "The use of Iron Mountain ore of Missouri with the coal of this region at the mouth of the Gauley River offers an opportunity for cheaper iron than at any other point in the West or East. The following estimate of cost to a company working their own mines, both coal and ore, and using the red and brown hematites of Virginia, has been furnished by a practical iron maker, and may be considered reliable :

| | |
|---|---|
| 2½ tons coal, delivered at furnace | $2 88 |
| 2½ tons ore, in cars | 1 15 |
| Freight on ore per C. and O. R. R., 100 miles | 2 25 |
| ½ ton limestone, delivered at furnace | 75 |
| Labor per ton of iron made | 3 50 |
| Interest, &c., per ton of iron made | 1 00 |
| Total cost at furnace at mouth of Gauley, on Ohio River | 12 53 |

[*The reader can choose between the items and the total, which are given by this reliable journal.*]

"Freight from this point to Cincinnati is $2 00 per ton, putting a first-class quality of pig metal in the market at a cost of $15 00 per ton. The same iron could be shipped to Alexandria, on the Potomac, by rail, at a cost of $3 50, and from thence to New York or Philadelphia, by water, for $1 00 to $1 50 more, making the actual cost of pig metal made on the Ohio River $18 00 to $19 00, delivered on the Atlantic seaboard."

We pronounced these statements exaggerated, untrustworthy, and likely to injure the real interests of one of the most valuable and promising coal and iron regions of the United States.

In his latest remarks, the gentleman who manipulates the scissors and paste-brush has added nothing to the discussion, except a few unnecessary slashings and drippings, leading us to surmise that his scissors are crooked and his paste is sour.

Among the authorities cited by the *Iron Age* to sustain its statements is the Hon. HOWELL FISHER, a gentleman largely interested in the coal and ore lands on the line of the Chesapeake and Ohio Railroad. Mr. FISHER naturally puts forward the most favorable view of the facilities for mining in that region. He says the coal "is accessible at hundreds of points by simply scraping off the surface soil ; so that, *so far as the mere getting of the coal is concerned*, $2,000 will open a mine ready to ship 1000 tons per week, or 52,000 tons a year." The clause we have italicized is one which SCISSORS accidentally omitted, or PASTE failed to comprehend. It means, as all who are even slightly acquainted with the subject will at once perceive, that the $2000 will be spent in the underground work of driving gangways and opening chambers from which 1000 tons per week could be mined. This is less absurd than the mangled quotation of it in the *Iron Age;* but it is at best only a paper estimate. Practical value it has none ; for the simple reason that nobody in his senses expects to open a productive colliery for the cost of the mere labor of making the entries. Mr. FISHER is indeed good authority on this practical point. Let him say frankly how many times $2000 he has spent in his coal-mining operations at Quinnemont, and what small fraction of 52,000 tons he has shipped during the past year. Neither he, nor anyone else, in West Virginia, or in any other part of this country, has put a colliery in condition to produce 52,000 tons per year for $2000 or $10,000—probably not even for $20,000. We are personally acquainted with mines in West Virginia, favorably located, where the expenditure of far more than the sum last named has effected an output sadly smaller than 52,000 tons per year.

As to the delivery of coal "on the cars" at $1 per ton : the *Iron Age* is "assured by owners of coal lands in the vicinity, that contracts can be made at this figure." Unfortunately, the owners of coal *lands* are not as good authority as the operators of coal *mines*. SCISSORS and PASTE may not see the distinction, but a little practical acquaintance with the subject would have made it evident. At the beginning of this year, the actual price paid for cutting coal by the heaviest operator in the Kanawha Valley was from 3·6 to 4 cents per weighed bushel of 80 lb. of clean coal passed over a 1¼ in. screen. At other points, the miners received 3 to 3·5 cents per bushel, according to the character of the coal—the splint coal used in iron-making always costing more to mine than the softer coking coals. To this must be added the royalty, which, along the line of the railroad, amounts to 15 to 28 cents per ton. If the operator owns the land, the royalty is paid to the sinking fund. At only 3 cents for cutting, we have already more than $1 per ton, without any allowance for hauling ; loading in cars ; wear and tear and insurance of plant, machinery and improvements ; roads ; mine-cars ; interest on working capital; general office expenses, superintendence, &c. The contractor who should undertake, using his own plant and improvements, to deliver coal on the cars at $1 per ton, would speedily add another to the long list of sanguine adventurers who have come to grief because they went into a business that they did not understand, on just such representations as those endorsed by the *Iron Age*.

We have already appealed to Mr. FISHER'S practical experience at Quinnemont ; and we will add, that a chapter from Prof. ANSTED'S operations at Hawk's Nest would be an interesting comment on *his* paper estimates. This is the gentleman who testified before the Senate Committee that "in his opinion the cost of making iron at mouth of Gauley would not exceed one half the present cost of the same production in England." The *Iron Age* says of him :—

"Professor ANSTED'S authority has been considered, in this country and abroad, as good as that of most experts, and by the commercial world as of sufficient value to justify the investment of large sums of money—an amount of confidence not always bestowed on *all* 'Professors,' whether of native or foreign extraction."

We are quite ready to add, that confidence in a mining operation should not be bestowed on *any* Professor who is not an experienced mining engineer. And, moreover, the amount of *money invested* by the commercial world on a professional report is, perhaps, a trifle less satisfactory, as evidence of its value, than would be the amount of *profits realized* from the investment. Now we appeal from Prof. ANSTED making pamphlets to Prof. ANSTED mining coal. His acquaintance with the geology and mineralogy of Great Britain, however thorough, appears to be outside of the present question. His practical experience in realizing his own estimates in West Virginia would be quite to the point. But we will not deprive him of the pleasure of telling it himself.

Mr. W. H. EDWARDS, President of the Ohio and Kanawha Coal Company, is a competent witness. But what he says does not confirm the statements made by the *Iron Age*. He talks of coal delivered on the boats of the company at $2 per ton—which, we beg leave to inform our friend scissors, is exactly two times $1.00.

We have already said that, instead of Kanawha coal being deliverable in Richmond at $3, as stated in the *Iron Age*, the freights alone are actually $3.50 to $3.65, to say

nothing of the cost in the cars at the mines, interest on freights, loss on the way, &c. Freights on iron are usually much higher than on coal. The actual rates now charged by the Chesapeake and Ohio Railroad, we are informed officially, are 2 cents per ton per mile from the Kanawha to Alexandria ("for continuous shipments in trains something less than this might be named"). The distance from the Ohio to Alexandria is 438 miles; the freight is therefore $8.76, instead of $3.50, as given by the *Iron Age*. To Richmond the rate is also 2 cents per ton per mile. And these rates are much lower than they were when the reports which the *Iron Age* quotes were made.

Professor ANSTED is adduced again, to show that there are in Gauley Mountain from 50 to 70 feet of workable coal, all above water level, consisting of veins from four to ten feet thick. This statement is a gross exaggeration; and it is not supported by Mr. DADDOW's section, given in corroboration by the *Iron Age*. Mr. DADDOW made that section some years ago, and is not to blame for inaccuracies which later openings have corrected. He gave the veins as 2, 6, 3, 5, 3, 2½, 3, 2, 2½, 10, 6, 4, 5 and 3 feet respectively—that is, in a total thickness of 57 feet *in beds of 2 feet and upwards*, there are (according to his section) 36 feet in beds of 4 feet and upwards. The *Iron Age* handles these figures in its peculiar style: "in all 14 veins, and averaging over four feet thick, or literally 'from four to ten feet thick.'" In this calculation the paste is very thick; but the coal is "too thin."

The maximum thickness of coal in the Kanawha field is, we believe, to be found on Paint and Cabin creeks. We give herewith two sections on Paint creek: one, the result of a survey made some years ago by Prof. ANSTED, and still copied by all promoters and prospectus-makers; the other, a section at the same place, exposed by the actual operations of Mr. W. H. EDWARDS. From the latter, it appears that out of a total thickness of 51' 10" (or 60 feet, as the case may be) of workable vein—that is, of veins of 2 feet and upwards—there are but 25 feet, or 33 feet, in veins of 4 feet and upwards.

| ANSTED'S SECTION. | SECTION FROM ACTUAL MEASUREMENT. |
|---|---|
| Coal. | |
| | Coal measures....283' |
| 7' 6" | Coal vein.....Not opened. |
| | Measures.....34' 0" |
| | Coal..... 2' 0" |
| | Measures.....21 5" |
| 5' 6" | Coal..... 3' 6" |
| | Flint ledge |
| 7' 0" | Coal vein..... 4' 0" |
| | Measures.....66' 0" |
| 2' 6" | Coal, splint of su- |
| 3' 0" | perior quality.. 4' |
| | Measures.....42' 6" |
| 11' 0" | Coal, Coalburg seam, splint and cannel... 11' 4" |
| | Measures.....53' 0" |
| 3' 6" | Bituminous coal.. 3' 6" |
| | Measures.....33' 0" |
| 4' 0" | Bituminous coal.. 6' 0" |
| | Measures.....42' 8" |
| 6' 0" | Coal.....Not opened. |
| | Measures.....17' 6" |
| | Coal..... 2' 6" |
| | Measures.....22' 2" |
| | Coal.....Not opened. |
| | Measures.....38' 3" |

| ANSTED'S SECTION. | SECTION FROM ACTUAL MEASUREMENT. |
|---|---|
| Coal. | |
| | Coal.....Not opened. |
| | Measures..... 9' 0" |
| | Coal.....Not opened. |
| | Measures.....58' 0" |
| | Coal.....Not opened. |
| 2' 6" | Measures.....35' 0' |
| | Coal.....Not opened. |
| | Measures.....79' 0" |
| | Coal..... 2' 0" |
| | Measures.....15' 0" |
| | Coal..... 2' 0" |
| | Measures.....21' 0" |
| 3' 6" | Coal..... 3' 6" |
| | Measures.....29' 0" |
| 2' 6" | Coal..... 2' 0" |
| | Measures.....11' 0" |
| 2' 6" | Coal..... 3' 0" |
| | Measures.....12' 6" |
| 4' 0" | Coal..... 2' 6" |
| | Measures.....40' 00" 51' 10" |
| | Level of Paint Creek. |
| 6' 6" | |
| 6' 6" | Coal said to be..... 8' 0" |
| 78' 0" | Total.....59' 10" |

*The facts* are quite favorable enough to the West Virginia field. An extended personal acquaintance with it has given us the highest opinion of its resources and advantages. But the efforts of those who, like ourselves, would be glad, by a fair presentation of the truth, to direct capital and industry into these promising channels, are constantly thwarted by the mischievous and misleading exaggerations of "promoters," enthusiastic adventurers, and ill-informed newspapers, which inevitably tend to disappointment, disaster, and reaction.

We have no quarrel with the *Iron Age*. There is nobody on that paper to quarrel with. The amiable gentlemen who arrange its advertisements, read the proof of its contributions, and supply incidentally the editorial "matter," are excellent workmen in their sphere; and the paper is an excellent paper. What it lacks is a "coal and iron editor," somebody that has at least a little knowledge of mining coal and making iron, and till it does make this much-needed addition to its staff, we shall not be surprised if, as it says, "in the future, as in the past, we shall probably supply the ENGINEERING AND MINING JOURNAL with other information, scarcely less startling." As to being "startled," the *Iron Age* has worked its present vein too long; its constant repetition of absurdities has lessened their effect, and we are getting past being startled in that way. If it would inflict upon us a thorough, first-class shock, let it suddenly commence to give its contemporaries credit for what it takes, wholesale, from their columns, and to furnish them something worth quoting of its own.

## Tellurium Ores of Colorado.

BY FRED. M. ENDLICH.

THE occurrence of tellurets in the vicinity of Gold Hill, Colorado, has, for some time, attracted the attention of mineralogists and chemists, both of this country and abroad. A short synopsis of their occurrence, mineralogical and chemical properties, may be of interest to those pursuing kindred studies, and will show the extraordinary variety in which minerals ranking among the rarest occur at this locality. Through the kindness of Prof. J. F. L. SCHIRMER, Director of the U. S. Mint at Denver, Colorado, the writer has been enabled to make the subjoined examinations:—

Granite, varying in texture so as to become gneissoid, is the main rock of the Gold Hill region. A number of dikes formed by a quartzose porphyry, with numerous crystals of feldspar, traverse the granite, striking from NE. to SW. On either side of one of these dikes are located the famous Red Cloud and Cold Spring Lodes. Dip almost vertical. Fifty feet of porphyry separate the two parallel veins.

Of the greatest interest, although not sufficiently examined as yet, are the surface ores, varying in color from a light grayish brown to a dark brown and dark gray. In the former case, they owe their coloring to the decomposition of pyrite, accompanying the tellurets; in the latter, to a dissemination of tarnished silver, and white or light yellow tellurates, and quartz. Very delicate wires, of both silver and gold, occur throughout these surface ores, sometimes isolated, sometimes forming a large portion of the specimen, as the result of a decomposition of the tellurets. White to yellowish coating of the accompanying quartz, also occurring in small particles, may be regarded as the resulting tellurates; but a more definite knowledge of their chemical constitution is wanting, as yet. Of the tellurium minerals known at present, a number have been found in the lodes above mentioned.

*Native Tellurium,*

corresponding in all particulars with the tests usually employed for the detection of that metal, was found to contain 92 per cent. of Te, the remaining 8 per cent. being made up by antimony, selenium, and iron. Prof. SCHIRMER's collection contains two crystals of tellurium, hexagonal prisms, with perfect lateral cleavage, basal more obscured, the larger one of which is an inch and a quarter in length, and three-eighths of an inch thick; the smaller one is an inch in length and a quarter of an inch thick; besides several others of half an inch in length. In a large specimen, composed of tellurium and quartz, the quantity of tellurium, determined by calculation based upon analysis, was found to be about one pound and four ounces. The mineral is very bright, showing a foliated texture, in consequence of its lateral cleavage. A test for tellurium may here be mentioned that seems to be but little known; it is very decided and characteristic, however. After pulverizing the mineral, and warming it gently in concentrated sulphuric acid, the latter turns bright or deep cherry-red, varying in shade with the quantity of the tellurium.

*Calaverite*

occurs in the same mine, distinguished from the accompanying minerals by its very large yield of gold.

*Hessite*

appears to have been found, but its identity is not yet established beyond a doubt.

*Cerargyrite*

occurs in the surface ores, scaly, coating the quartz. Only in a few instances has it been observed thus far.

*Native Gold and Native Silver,*

the result of decomposition, both in wire and leaf-form, are found in the surface ores, either in isolated particles, disseminated throughout the rock, or in seams.

*Chalcopyrite,*

rare, but, when found, intimately associated with the tellurets. Massive.

*Pyrite*

in small crystals, and massive. When crystallized, showing combinations of cube, octahedron, and rhombic dodekahedron.

*Galena*

occurs very sparingly, associated with quartz.

*Dolomite*

in groups of small contorted crystals, of white, yellow, and brown color.

*Quartz*

crystallized in small cavities, else forming a large portion of the gangue rock.

*Caolinite,*

associated with the quartz, occurs as part of the gangue.

*Amalgam,*

from the Forest Mine, in a very small quantity. It is almost as liquid as mercury, and contains a little silver.

*Todyrite,*

the identity of which is not yet firmly established, coating quartz in some of the surface ores.

Besides these well-known minerals, two new ones have been found, the one of which,

*Schirmerite,*

forms the main portion of the paying ore. Color very bright lead gray, with a tinge of purple, foliated, with curved surface. Hardness 2 to 2·5. From analyses, the formula (Au Fe) Te+3Ag Te has been deduced. Its reactions before the blow-pipe afford distinction from other tellurets, inasmuch as the assay becomes magnetic in the ox. flame. Occurs massive, disseminated finely throughout the ore, imparting to it a dark-gray color; or it is found in thin streaks, often accompanied by native gold.

This species is dedicated to Prof. SCHIRMER, who has so carefully collected and liberally distributed these highly prized minerals.

*Henryite.*

Color brass yellow, lustre very bright. Probably tetragonal. Cleavage perfect lateral, less so basal. Hardness 2· to 2 5. The formula 3 Pl Te + Fe Te has been found from analyses. In distinction from all the other tellurets of that region, this mineral contains merely a trace of gold and silver. Several small crystals in the possession of Prof. SCHIRMER seem to show the tetragonal octahedron of first and second order, with the base. Occurs massive and in streaks.

To Prof. JOSEPH HENRY, Secretary of the Smithsonian Institution, Washington, D. C., this species is dedicated.

When compared with the occurrence of tellurets in other parts of the globe, the variety and quantity found in the Gold Hill region is astonishing; and it seems highly probable, moreover, that the entire number of species has not yet been fully ascertained.

## CORRESPONDENCE.

### Mining in Nova Scotia.

II.

PICTOU, August 18, 1874.

TO THE EDITOR: SIR—Beside the coal field of Cumberland, in Nova Scotia proper, there is but one other district, this of Pictou, where workable seams have as yet been opened. The business is at present controlled by but five companies, who own the major part of the explored portion of the field. While the coals of Cape Breton are eminently suited for gas making, these of Pictou are best adapted for steam purposes, being harder, less caking, and on burning leaving a pulverulent ash free from clinker. They are more in demand, and bring higher prices than the gas coals; and while that county has felt the depressed condition of the trade, the sales for this year are here in advance by some 30,000 tons over what they were at this time last year. But the prospects for the remainder of the season are not bright, and in consequence the price, f. o. b., has been reduced to $2 50 per ton.

This coal field is much disturbed by faults, and while it is reasonable to suppose future explorations may show ground, at present unknown, to be of value, the area as yet proved does not contain more than 400,000,000 tons of coal.

The following section gives the seams and the intervening measures in the least-disturbed district of the field:

| | Coal. Ft. | In. | Measures. |
|---|---|---|---|
| Three and a half feet seam | 3 | 6 | 1128 |
| Main seam | 40 | 0 | 148 |
| Deep " | 23 | 0 | 196 |
| Third " | 5 | 6 | 113 |
| Purvis " | 2 | 8 | 130 |
| Fleming " | 3 | 3 | 4 |
| McGregor " | 11 | 6 | 211 |
| Oil coal or stellar coal | 5 | 0 | 16 |
| A, estimated | 11 | 0 | 110 |
| B, " | 2 | 0 | 75 |
| C, " | 10 | 0 | 58 |
| D, " | | 6 | 35 |
| E, " | | 6 | 39 |
| F, " | 4 | 0 | 9 |
| G, " | 2 | 0 | 150 |
| Total | | | 2,453 feet. |

The seams lie highly inclined, at angles varying from 18° to 30°, and are, with the exceptions in the Main and Deep seams of the above section, worked by slopes which, fitted with powerful machinery, are capable of throwing from six to seven hundred tons a day. The Main seam, of which but 18 ft. are extracted, is won by the Foord pit, 900 ft. deep (the deepest in the Province). Levels (gangways) are first driven well in advance to drain the coal of gas, of which the seam is liable to sudden irruptions, and at distances varying from 300 to 400 ft. headways are put up to the level above, and counter or back-balances erected to lower by their own weight the tubs (small pit cars) from the rooms, which are driven horizontally, to the level below. At greater distances apart, slant roads are driven to the upper level, and self-acting inclines work in them rakes of tubs from the workings off the level above. The rooms are driven 16 or 18 ft. wide, and at every twenty or forty yards cross-cuts for air are put through. The pillars are left of widths proportionate to the weight of the cover, and at the Foord pit they are left seventeen yards thick.

After a district has been worked an attack is made on the pillars. Various plans have been tried to find which will yield the most coal, but, work as they may, much loss is experienced, owing to the thickness and steep pitch of the seams. The most economical plan yet tried is to carry back four or five pillars on one face of work as far as the roof, with the aid of timber, will stand. Seventy feet in the Acadia, where this system is adopted, is about the distance attained. The roof is then allowed to fall, cross-cuts three or four yards from the broken are driven, and another section of pillars 70 ft. wide removed.

Where the seams are worked by slopes, the coal is worked in the same way, the lifts being 300 to 400 feet in width. Powder is used in all but the leading places in the Foord pit, where safety lamps are alone used.

The ventilation is generally effected by a furnace, but at the Foord pit a fan, 30 feet in diameter, exhausts some 80,000 cubic feet of air per minute when the engine runs at the moderate speed of 45 stokes. The pumping and hoisting machinery at this pit are duplicates of that erected at the new winning at Sydney mines, described in the last Mining report, and copied into your Journal of May 2nd.

The prices paid for labor are similiar to those given in Cumberland, but cutters getting from 45 to 62 cents per cubic yard according to circumstances, are enabled, in these thick seams, to make larger wages, earning occasionally at the rate of $4 00 per day. The average for the whole of last year at one colliery was 4·5 cubic yards per day per man. Since the lamentable disaster at the Diamond colliery in May, 1873, when, it will be remembered, sixty persons lost their lives by an explosion of gas, more attention has been paid to the discipline of the mines, and so forcible an example showing the necessity for greater care, a marked improvement is noticeable.

The work of opening that part of the Diamond set on fire by the explosion is proceeding, but until a circulation allows the air to find its way to the face of the workings, great caution will be exercised lest the remaining heat be sufficiently intense to renew the combustion on the admission of air.

SAFETY LAMP.

## COAL TRADE REVIEW.

### Import Duty on Coal.

*Anthracite* free. *Bituminous*, per ton of 28 bushels, 80 lb. to the bushel, 75c., gold.

All *slack*, or *culm*, such as will pass through a half-inch screen, per ton of 28 bushels, 80 lb. per bushel, 40c., gold.

Not otherwise provided for, per ton, 40c. gold.

***This is the only report published that gives full and accurate returns of the production of our Anthracite mines.***

NEW YORK, Aug. 28, 1874.

**The Production of Anthracite Coal** for the week ending Aug 22, 1874, was as follows:

| Tons of 2240 lb. | WEEK. Tons. | YEAR* Tons. |
|---|---|---|
| *Wyoming Region.* | | |
| Delaware and Hudson Canal Co | 32,659 | 1,489,781 |
| Delaware, Lackawanna and Western R.R | 36,854 | 1,374,424 |
| Pennsylvania Coal Co | 28,326 | 821,003 |
| Lehigh Valley R.R. | 14,452 | 627,191 |
| Pennsylvania and New York R.R | 1,083 | 39,194 |
| Central Railroad of New Jersey | 40,630 | 863,519 |
| Sold at the mines by L. & W. C. Co | 295 | 12,275 |
| | 154,305 | 5,427,387 |
| *Lehigh Region.* | | |
| Lehigh Valley R.R | 57,764 | 1,987,057 |
| Central Railroad of New Jersey | 21,058 | 664,206 |
| Danville, Hazleton & W. B. R.R. | .... | 22,806 |
| | 78,822 | 2,674,069 |
| *Schuylkill Region.* | | |
| Philadelphia and Reading R.R | 52,501 | 3,005,696 |
| Shamokin and Lykens Valley | 20,187 | 552,323 |
| | 72,688 | 3,558,019 |
| *Sullivan Region.* | | |
| Sullivan and Erie R.R | 1,264 | 23,566 |
| Total of all the regions | 307,079 | 11,683,041 |

* Year beginning Jan. 1.

***The following table does not give the entire production of our bituminous mines, but it is by far the fullest report published.***

**The Production of Bituminous Coal** for the week ending Aug. 22, was as follows:

| Tons of 2000 lb. | Week. Tons. | Year. Tons. |
|---|---|---|
| *Cumberland Region, Md.* | | |
| Cumberland and Pennsylvania R.R. | 53,864 | 1,460,673 |
| Cumberland Branch R.R. | 5,249 | 174,470 |
| *Barclay Region, Pa.* | | |
| Barclay R.R. | 10,125 | 215,334 |
| *Broad Top Region, Pa.* | | |
| Huntingdon & Broad Top R.R. | 4,500 | 150,266 |
| *Clearfield, Region, Pa.* | | |
| Snow Shoe | | 39,409 |
| Tyrone and Clearfield | | 379,967 |
| *Allegheny Region, Pa.* | | |
| Pennsylvania R.R. | | 135,915 |
| *Pittsburgh Region, Pa.* | | |
| West Penn. R.R. | | 122,357 |
| Southwest Penn. R.R. | | 4,542 |
| Penn and Westmoreland gas coal, Pa. R.R. | | 576,559 |
| Pennsylvania R.R. | | 269,332 |
| *Kanawha Region, W. Va.*, week ending August 22. | | |
| Chesapeake and Ohio R.R | 2,790 | 88,800 |
| Shipments from *Block House Region, Nova Scotia*, to Aug. 15. | | |
| Consigned to the Provinces, tons 2240 lb | 326 | 7,175 |
| " " United States " " " | 456 | 10,454 |
| " " Cuba, " " " | .... | 360 |
| Shipments from *Pictou Region, Nova Scotia*, to Aug. 15th. | | |
| Consigned to the United States tons 2240 lb. | 2,821 | 33,223 |
| " " " West Indies " " " | .... | 3,817 |
| " " Canada " " " | 5,782 | 63,116 |
| " " Other provinces " " " | 3,345 | 35,321 |
| *Warrior Region, Ala.* | | |
| South and North Alabama Railroad for July. | 3,040 | 12,813. |
| *Cahaba Region, Ala.* | | |
| South and North Alabama Railroad for July. | 150 | 2,147 |
| Monthly reports. | | |
| *Pittsburgh Region*, for July. | | |
| Saw Mill Run Railroad | 4,395 | 68,957 |
| Cleveland and Pittsburgh Railroad | 22,335 | 150,549 |
| Pittsburgh, Cincinnati and St. Louis RR. | 42,078 | 370,513 |
| Erie and Pittsburgh Railroad | 30 617 | 150,353 |
| Pittsburgh, Fort Wayne and Chicago RR. | 22,849 | 137,822 |
| Monongahela Nav. Co., Coal | .... | 1,740,203 |
| Castle Shannon Railroad, June | .... | 69,180 |
| Pittsburgh & Connellsville RR. July, coal | 26,922 | 193,721 |
| Monthly reports to July 1st. | | |
| *St. Louis Region.* | | |
| Belleville and Southern Illinois RR. | 22,920 | 149.968 |
| Ohio and Mississippi RR. | 12 484 | 85,252 |
| Illinois and St. Louis " | 15,072 | 87,957 |
| St. Louis, Vand., Terre Haut and Ind. RR. | 10,069 | 60,069 |
| St. Louis and Southeastern RR. | 13,578 | 59,858 |
| Cairo and St. Louis (narrow gauge) RR. | 498 | 15,200 |
| Ind. and St. Louis RR. | .... | .... |
| Toledo, Wabash and Western RR. | .... | .... |
| Chicago and Alton RR. | .... | .... |
| Iron Mt. RR. (semi-Anthracite from Ark.) | .... | .... |
| Rockford, Rock Island and St. Louis RR. | .... | .... |
| By Illinois River | .... | .... |
| " Ohio and Cumberland River | .... | .... |
| Castle Shannon Railroad | .... | .... |

**The Production of Coke** for the week ending August 21st:

| Tons of 2000 lb. | Tons. | Year. Tons. |
|---|---|---|
| Tyrone and Clearfield | .... | 401 |
| West Penn. R.R. | 386 | 30,093 |
| Southwest Penn. R.R. | 17,566 | 241,830 |
| Gas Coal, Penn. R.R. | 380 | 23,260 |
| Pittsburgh Coal, Penn. R.R. | 1,834 | 42,920 |
| Monongahela Nav. Co., July | .... | 45,075 |
| Pittsburgh & Connellsville RR. | 37,898 | 290,297 |

The production of Anthracite for the week ending August 22nd was as follows: Wyoming Region 154,305 tons, being 20,824 tons less than the preceding week. In the Lehigh region, 78,822 tons, or 6,250 tons less than the week before, and in the Schuylkill region, 72,688 tons, being 79,490 tons less than the preceding week.

The total production of Anthracite from all the regions was for the week 307,079 tons, as against 413,237 tons the preceding week, and 456,315 tons for the corresponding week last year. From January 1st to August 22nd, there were produced 11,683,041 tons, as against 12,329,253 tons for the same period last year. The figures of last year's production are taken from the Pottsville *Miners' Journal*.

The Delaware and Hudson Canal Company has at Honesdale 195,000 tons, at Rondout 45,000, at Weehawken 15,000 tons.

The receipts at Port Richmond were 20,000 tons; shipments, 37,000 tons; and balance on hand 88,000. Last week the balance was 126,000 tons.

The receipts at Greenwich, Philadelphia, were: bituminous 2958 tons, and gas coals 6820 tons; shipments: bituminous 3110 tons, and gas coals 6629 tons; balance on hand: bituminous 2935 tons, and gas coals 2793 tons.

The receipts of anthracite coal at Coal Port for the week were 5807 tons, and shipments 5225 tons; at South Amboy the receipts were 8060, and shipments 11,013. At both ports, since January 1st, the receipts were 599,092 tons, and shipments 580,403 tons, showing an accumulation of stock this year of 18,689 tons.

The production of Cumberland coal from January 1st to August 22, inclusive, was 1,633,143 net tons of 2000 lb. The production for the week was 59,113 tons.

The receipts of coal at Buffalo for the week were 6823

tons. The shipments for the same period were 11,558 tons by Lake.

The receipts of Cumberland coal at Locust Point, Baltimore, for the week were 18,870 gross tons, being the lightest receipts of any week this year.

## Correction.

A slight error crept into our reports of the Shamokin & Lykens Valley coal during the three weeks past. The corrected reports are :

For week ending August 1, 27,666 tons instead of 32 513 tons.
" " " 8, 23,537 " " 30,167 "
" " " 15, 25,200 " " 31,386 "

*Anthracite.*—The Coal Trade throughout the country sympathizes in the general prostration of business, and from nearly every district we hear of a diminished demand and unremunerative prices ; though, in this last respect the coal business has suffered less than any other. The price of that portion of the anthracite coal that goes to competitive points, is regulated by the Combination at figures that are very satisfactory to the companies, the only complaint in this case is the want of orders. The price of anthracite coal in the West, particularly in Chicago, has been very low all the year, and there have been some heavy losses through bad debts, so that the profits on the Eastern trade will be absorbed, in a measure, by the Western losses, and the average business of the year will not show as good a result, as many who know only the price of coal here, would suppose. The close of the month brings, as usual, a much greater demand for anthracite. It would appear as if the few cool days had already set people thinking about their winter's supply, and a very marked improvement in trade, particularly with retail dealers, is apparent ; this may die out again at the commencement of the next month, but it is looked upon by some as the beginning of "the good time coming," which we are all waiting for.

The Scranton sale of the 26th resulted in a general increase in prices, as will be seen from the following figures :

| | Highest. | Lowest. | Average. |
|---|---|---|---|
| 5,000 tons Steamer | $5 15 | $5 12½ | $5 14 |
| 10,000 " Broken | 5 20 | 5 13 | 5 16 |
| 5,000 " Egg | 5 45 | 5 42½ | 5 43 |
| 20,000 " Stove | 5 92½ | 5 90 | 5 92 |
| 10,000 " Chestnut | 4 82½ | 4 75 | 4 79 |

As compared with programme prices for September, less 15 cents commission, these figures show the prices realized to be on steamer 6 cents less, on broken, 14 cents less, egg, 2 cents less, stove, 2 cents more, chestnut, 11 cents less than programme prices. As these reductions make exactly an average of 5 cents, it lends confirmation to the opinion expressed some time ago that the Combination in reality allows a higher rate of commission (probably 20 cents) than was originally proposed. The question of a continued reduction in the output of the anthracite mines will be decided on the 2nd September. It is rumored that Schuylkill and Wyoming want to continue the 50 per cent. reduction, but that Lehigh can sell the full production, and opposes reduction.

We hear from our Philadelphia correspondent that there is some talk of changing the method of marketing the "pool coal" by the Reading Road. It would appear the retail yards of the company have not been a success, and if our correspondent be well informed, the Reading has some idea of a gain in the sid of middle men. Our Philadelphia letter will be found in its appropriate place.

*Bituminous.*—In this trade the only branch that shows any briskness is the gas coal trade of the Pennsylvania and Westmoreland Companies, and these, having made heavy contracts early in the season, continue shipping in the usual manner. The gas companies find the hard times have greatly diminished the consumption of gas, and as the progress made in the manufacture of gas causes a greater yield than formerly from every ton of coal, the demand for gas coal is less than last year. The New York companies are carrying very heavy stocks. The Manhattan, for example, has on hands 110,000 tons, and contracted for, in addition, 30,000 tons ; a supply sufficient to last for more than a year. With the greatly increased facilities for obtaining gas coals, it is very doubtful if this policy of carrying enormous stocks be well advised.

The boatmen on the Chesapeake and Ohio Canal have struck for higher rates, though they are now paid higher freights than are paid in any other part of the country. Present rates are $1 25 per gross ton for 152 miles, tolls extra 51 cents, making total as in our table $1 76. The price now asked is $1 35 to Georgetown, and 5 cents more to Alexandria. The companies have generally few orders, and the coal on hand must last some time. At Georgetown stocks are not heavy. We give an estimate of the stock at Georgetown and Alexandria, which will be very nearly correct. It is of considerable interest in this connection.

| | | |
|---|---|---|
| The Consolidation Company has at | Georgetown | 1,600 tons. |
| The Maryland Coal Company | " | 4,000 " |
| New Central Coal Company | " | 1,500 " |
| The American | " | 2,000 " |
| " | at Alexandria | 3,000 " |
| New Central | " | 2,000 " |

The probability is that, should the demand for coal increase, the men may get what they ask, though the present selling price at Georgetown would scarcely warrant it.

There have been no important arrivals of foreign coals during the week, and that trade is apparently dying out. Nova Scotia, it is true, sends us some gas coals, but the high price asked at the mines in the early part of the season, when orders were to be had, prevented our dealers from placing many there. Now, when few orders are to be had, the price at some of the mines has been reduced from $2 25 to $1 75 gold, per ton. We hear from Montreal that the English and Scotch coals are flooding that market, and the port is full of vessels looking for cargoes. Freights are very low.

The Kanawha and Ohio Coal Company has leased its mines at Coalburg, West Va.

Our reports, under their appropriate headings, tell the present condition of the coal market throughout the country.

***Wholesale Prices for August of Anthracite f.o.b., at the Tide Water Shipping Ports per ton of 2240 lb.****

| | Lump. | Steamer. | Grate. | Egg. | Stove. | Chestnut. |
|---|---|---|---|---|---|---|
| **Wyoming Coals.** | | | | | | |
| †Lackawanna and Scranton at E'port & Hoboken | 5 10 | 5 20 | 5 30 | 5 45 | 5 95 | 4 90 |
| ‡Pittston at Newburgh | 4 95 | 4 95 | 5 05 | 5 15 | 5 70 | 4 80 |
| Wilkesbarre at Port Johnston | 5 10 | 5 20 | 5 30 | 5 45 | 5 95 | 4 90 |
| Plymouth, R. A | .... | .... | 5 30 | 5 45 | 6 05 | 4 90 |
| Susque. Coal Co. at Amboy W.A. | 5 10 | 5 20 | 5 30 | 5 45 | 6 05 | 4 90 |
| Kingston at Hoboken | 5 10 | 5 20 | 5 30 | 5 45 | 5 95 | 4 90 |
| **Lehigh Coals.** | | | | | | |
| Old Company at Port Johnston | 6 05 | .... | 6 00 | 6 00 | 6 15 | 5 20 |
| Old Company's Room Run | 5 55 | .... | 5 55 | 5 55 | 5 90 | 4 90 |
| Sugar Loaf at Port Johnston | 6 05 | .... | 6 00 | 6 00 | 6 00 | 5 05 |
| Lehigh Coal Exchange | 5 90 | .... | 5 85 | 5 85 | 6 00 | 5 05 |
| Honey Brook at Elizabethport | 5 90 | .... | 5 85 | 5 85 | 6 00 | 5 05 |
| Spring Mt. C. Co. at Hoboken | 5 90 | 5 90 | 5 85 | 5 85 | 6 00 | 5 05 |
| Beaver Meadow at South Amboy | 5 90 | .... | 5 85 | 5 85 | 6 00 | 5 05 |
| **Schuylkill Coals at Port Richmond.** | | | | | | |
| Schuylkill white ash | 4 60 | 4 70 | 4 80 | 4 95 | 5 45 | 4 00 |
| Schuylkill red ash | ... | .... | 4 95 | 5 05 | 5 50 | 4 25 |
| Shamokin white and red ash | .... | .... | .... | 5 00 | 5 55 | 4 45 |
| N. Franklin | .... | .... | 5 40 | 5 40 | 5 45 | 4 25 |
| Lorberry | .... | .... | 5 75 | 5 75 | 5 75 | 4 35 |
| Lykens Valley | .... | .... | .... | 6 40 | 6 40 | 4 95 |

* Prices for September have been fixed at 15 cents above these rates.

† f. o. b. in New York Harbor.

‡ These are the rates for Pittston coal. Buyers having registered contracts will be charged 15 cents less than above prices.

| | Per ton. |
|---|---|
| Freight from Hoboken and Wehawken to New York | 40c. |
| " " Elizabethport & Port Johnston, to New York | 40c. |
| " " South Amboy to New York | 45c. |
| " " Newburgh to New York | 65c. |
| " " Port Richmond, "Phila." to N. Y. alongside | 95c. |
| " " Rondout to New York by boat or barges of the D. & H. Canal Co. "delivered" | 50c. |

***Retail Prices.****

per 2000 lb. are as follows:

| | Grate and Egg. | Stove. | Chestnut. |
|---|---|---|---|
| Pittston coal, in yard | $5 90 | $6 10 | $5 20 |
| Delaware & Hudson, delivered | 6 85 | 7 10 | 6 35 |
| Scranton, in yard | 7 00 | 7 25 | 6 55 |
| Wilkes-Barre, delivered | 6 85 | 7 10 | 6 35 |
| Lehigh & Locust Mountain, | 7 25 | 7 75 | 6 75 |
| Schuylkill Red Ash | 8 00 | | |

* These rates will be advanced 25 cents per ton on the 5th of September, agreeable to the programme of the companies.

***Retail Prices in New York.***

Per ton of 2000 lb.

| | |
|---|---|
| Liverpool House Orrel, | $20 00@22 00 |
| Liverpool House Cannel, | ....@25 00 |
| American Block, | 16 00@ .... |
| Straitsville Cannel | 16 00@ .... |
| Carbonite | 12 00@ ... |

***Cargo Prices of Bituminous Coal.***

At the Shipping Ports and Alongside in New York.

The above prices remain unchanged as compared with our last issue, to which we refer.

## Coal Trade of Philadelphia.

PHILADELPHIA, Aug. 28, 1874.

Reported by our special correspondent.

The regular advance of 15c has been ordered for September, and an advance of 25c a ton on retail prices is also announced. Still consumers were never more backward in laying in their winter supplies. A change in the mode of marketing the "pool coal" of the Reading Coal and Iron Co. has been freely talked of amongst the trade during the week. It is said this change will be in both the retail and wholesale departments, and that negotiations are now in progress between the managers of the company and some of the leading "middle men" to place under their charge the sale of particular coals. There is no doubt that the company's retail yards have been a failure. If September does not bring a revival of the trade, you may expect a general scramble of all the corporations to sell on their own hook unrestricted by the present regulations of the Holy Alliance ; this will be good news for the consumers of coal. There is no change in the prices or in the aspect of the bituminous coal trade.

***Bituminous Coal, Wholesale.***

| | |
|---|---|
| Penn. and Westmoreland (Gas), f.o.b., Greenwich | 5 25 |
| Broad Top, (according to destination) f.o.b., Port Richmond | 4 75@5 00 |
| Clearfield f.o.b. at Greenwich, according to destination | 4 75@5 00 |

***Bituminous, Retail.***

$6 00 in yard, per 2240 lb., cartage added.

## Prices of Anthracite Coal for Aug., 1874, at Various Points.

See our last issue.

***Programme Prices of Schuylkill, Lackawanna, Wkes-Barre and Lehigh Coals at the New York Shipping Ports.***

| 1874. | Lump. | | | Chestnut. | | |
|---|---|---|---|---|---|---|
| | Wilkes-Barre, Lackawanna, and Schuylkill. | Lehigh Coal Exchange. | | Wilkes-Barre, Lackawanna, and Schuylkill. | Lehigh Coal Exchange. | |
| March | 4 55 | 5 35 | | 4 35 | 4 50 | |
| April | 4 60 | 5 40 | | 4 40 | 4 55 | |
| May | 4 70 | 5 50 | | 4 50 | 4 65 | |
| June | 4 80 | 5 60 | | 4 60 | 4 75 | |
| July | 4 95 | 5 75 | | 4 75 | 4 90 | |
| August | 5 10 | 5 90 | | 4 90 | 5 05 | |
| September | 5 25 | 6 05 | | 5 05 | 5 20 | |
| October | 5 40 | 6 20 | | 5 20 | 5 35 | |
| November | 5 55 | 6 35 | | 5 35 | 5 50 | |
| Average, 1874 | 4 99 | 5 79 | | 4 79 | 4 94 | |
| Season contracts. | 4 70 | | | 4 50 | | |
| Scranton Sale, Aug. 26 | ..... | ..... | | 4 79 | | |
| | Stove. | | | Egg. | | |
| | Wilkes-Barre, Lackawanna, and Schuylkill. | Lehigh Coal Exchange. | | Wilkes-Barre, Lackawanna, and Schuylkill. | Lehigh Coal Exchange. | |
| March | 5 35 | 5 45 | | 4 90 | 5 30 | |
| April | 5 40 | 5 50 | | 4 95 | 5 35 | |
| May | 5 50 | 5 60 | | 5 05 | 5 45 | |
| June | 5 65 | 5 70 | | 5 15 | 5 55 | |
| July | 5 75 | 5 85 | | 5 25 | 5 70 | |
| August | 5 90 | 6 00 | | 5 45 | 5 85 | |
| September | 6 05 | 6 15 | | 5 60 | 6 00 | |
| October | 6 20 | 6 30 | | 5 75 | 6 15 | |
| November | 6 35 | 6 45 | | 5 90 | 6 30 | |
| Average, 1874 | 5 79 | 5 99 | | 5 34 | 5 74 | |
| Season contracts. | 5 50 | | | 5 05 | | |
| Scranton Sale, Aug. 26 | ..... | 5 43 | | 5 43 | | |
| | Grate or broken. | | | Steamer. | | |
| | Wilkes-Barre, Lackawanna, and Schuylkill. | Lehigh Coal Exchange. | | Wilkes-Barre, Lackawanna, and Schuylkill. | Lehigh Coal Exchange. | |
| March | 4 75 | 5 30 | | 4 65 | 5 35 | |
| April | 4 80 | 5 35 | | 4 70 | 5 40 | |
| May | 4 90 | 5 45 | | 4 80 | 5 50 | |
| June | 5 00 | 5 55 | | 4 90 | 5 60 | |
| July | 5 15 | 5 70 | | 5 05 | 5 75 | |
| August | 5 30 | 5 85 | | 5 20 | 5 90 | |
| September | 5 45 | 6 00 | | 5 35 | 6 05 | |
| October | 5 60 | 6 15 | | 5 50 | 6 20 | |
| November | 5 75 | 6 30 | | 5 65 | 6 35 | |
| Average, 1874 | 5 09 | 5 74 | | 5 09 | 5 79 | |
| Season contracts. | 4 90 | | | 4 80 | | |
| Scranton Sale, Aug. 26 | 5 16 | | | 5 14 | | |

## Baltimore, Md.

Aug. 26, 1874.

Messrs. SHAW BROS., Coal Shipping Merchants, report as follows :

No improvement to note in the trade. Last week's receipts at Locust Point of Cumberland coal, 18,870 tons. This is the lightest week this season. Freights eastward about the same as last reported, *i.e.*, $1 50 to Boston ; $1 40 Sound ; $1 25 New York. Boatmen on C. and O. Canal are on strike demanding 10 cents per ton advance on freights. No coal is being loaded at present at Cumberland.

WHOLESALE PRICES PER 2240 lb.

ANTHRACITE.

| | afloat. | at depot. |
|---|---|---|
| *Wilkes-Barre, "Lee," or "Diamond,"* | | |
| Lump, steamboat | $5 00 | $5 60 |
| Broken | 5 20 | 5 65 |
| Egg | 5 52 | 5 95 |
| Stove | 5 67 | 6 10 |
| *Pittston and Plymouth.* | | |
| Lump, steamboat, and broken | .... | 5 40 |
| Egg | .... | 5 70 |
| Stove | .... | 5 85 |
| Lykens Valley, red ash, all sizes | 6 02 | 6 30 |

From wharf or yard, wholesale, 50@75c. additional.
By retail, all kinds and sizes, per 2,240 lb, $7@8 00.

BITUMINOUS.

| | | |
|---|---|---|
| George's Creek and Cumberland f. o. b. at Locust Point for cargoes | 4 75 | .... |
| West Va. Gas Coal f. o. b. at Locust Point | 5 50 | .... |
| Kanawha Cannel, coarse | 13 00 | .... |
| Tyrone | 7 25 | .... |
| Ritchie Mineral of West Virginia | 1 00 | .... |

## Boston.

August 22, 1874.

From the *Commercial Bulletin.*

Coal is quiet. In anthracite there is the same listlessness that has marked the general features of the business for the season through, and although the rumor was credited that the Reading Railroad had shut down again from Thursday until September first, there was no anxiety manifested by either manufacturers or dealers to secure cargoes out of lots now on Philadelphia wharfs. The situation for coal dealers is a very trying one. In their endeavors to secure the products of mines on which their yard trade reputation is founded, they had so far poor success. The dumping and storing system at the points of delivery, while it may facilitate the handling of coal cheaply, is the ruination of individual mines, and turns to the buyer an assortment of good, bad and indifferent coals, such as luck happens. With a dull season for all descriptions of steam power, and a procrastinating and picayune policy with family provision, the trade have an over-abundance of time for gossip, and the great and the small deficiencies and shortcomings of the coal ring are the constant theme of chat and correspondence. A visit from the Philadelphia Moguls is anticipated during the coming week, when the evils of the business, and especially their retailing yard arrangements here, in New England, will be somewhat ventilated, and possibly a more pacific programme for the winter and spring be arranged.

Foreign are very dull. Several provincial cargoes have come during the week, but it goes mostly on to wharf. The overstocked condition of our salt market and the unprofitableness of importing English iron will possibly induce our Liverpool lines to take up coals again as a sort of ballast, hence we may look for increased stocks through the winter.

CARGO PRICES TO TRADE.

Reported by our Special Correspondent.

| | | | |
|---|---|---|---|
| Lingan coal | $ 5 75 | Westmoreland | 7 75 |
| Caledonia | 5 10 | Waverly Co. Youghiogh'y | 7 75 |
| Pictou | 6 15 | Cannelton Cannel | 13 50 |
| Block House | 5 60 | Cumberland | 5 90@ 6 20 |
| Red Bank Cannel | 10 00 | Anthracite, | 6 50@ 7 00 |
| Glace Bay | 5 40 | " Retail | 8 00 |
| Sydney | 7 25 | | |

### Burlington, Iowa.

Aug. 22, 1874.

Specially reported by Messrs. WIGHTMAN & CUMMINGS wholesale and retail dealers and shippers of coal.

Prices remain unchanged,

Per ton of 2000 lb.

| | | | |
|---|---|---|---|
| Lehigh Lump | $15 00 | Illinois Smithy | $6 00 |
| Lackawanna | 11 00@11 50 | " Steam | 3 75 |
| Blosburg Smithy | 13 00 | Connellsville Coke | 12 50 |
| Pittsburgh " | 10 00 | Illinois " | 10 00 |

### Buffalo, N. Y.

Aug. 26, 1874.

Reported by our Special Correspondent.

We note little change in prices of bituminous coals for the present. We quote same as previously. The demand for coke is a little better, for steam coals about the same, viz. dull. The only sales of coal from off the line of the A.V. R.R. Co. for steam are confined to the cheaper grades of slack and nut, the lump being mainly taken for supplying the New York Central contract and Grand Trunk, for locomotive use. Some little lump and nut from off the line of the "low grade road" is arriving, but sales are dull. In hard coal, the Combination propose to follow the advance on the 1st that was established in New York last week. We have no doubt the programme inaugurated in the spring will be carried out to the close of the season. Orders, however, only come in on the hand-to-mouth principle. No change in quotations before the 1st of the month.

Per ton of 2000 lb.

| | Slack. | Nut & Slack. | Nut. | Lump |
|---|---|---|---|---|
| Connelsville coke | | | | 6 50 |
| Sterling cannel. | | | | 6 00 |
| Red Bank " | | | | 5 75 |
| Youghiogheny coal for gas | | | | 5 50 |
| Briar Hill coal | | 3 25 | | 5 25 |
| Fairmount " | | 3 25 | 3 50 | 4 25 |
| Catfish " | | 3 25 | 3 75 | 4 50 |
| Stoneboro " | 2 75 | | 3 50 | |

Briar Hill coal, and Stirling and Red Bank cannels, at $8; all other coals $1 per ton above wholesale prices.

Anthracite f. o. b. vessel. Retail prices $1 per ton additional, delivered.

| | | | |
|---|---|---|---|
| Grate | 6 25 | Stove | 6 72 |
| Egg | 6 25 | Chestnut | 6 00 |

### Chicago, Ill.

Aug. 24, 1874.

Specially reported by Messrs. RENO & LITTLE, Coal Merchants.

No change in prices this week. Trade is picking up a little, but is far less in volume than it was last year at this time.

Retail prices per ton of 2000 lb. delivered to buyer.

| | | BITUMINOUS. | |
|---|---|---|---|
| Lehigh Lump | $10 50 | Briar Hill and Erie | 7 50@ |
| Lehigh prepared and car load lots | 9 50 | Walnut Hill (W. Va.) | 6 50@ |
| Lackawanna, Wilkes-Barre and Pittston,* | | Midway (West Va.) | 6 50@ |
| Grate, egg, and chest. | 8 75 | Cannel | 8 00@ |
| Stove or range | 9 25 | Blossburg | |
| | | Indiana Block | |
| | | Hocking "Brooks" | |
| | | Wilmington and Illinois | |

*75 cents off these prices for car load lots to country dealers and manufacturers.

### Cincinnati, O.

August 25, 1874.

Specially reported by Messrs. A. BUCHANAN & Co., wholesale and retail dealers in coal and coke.

There has been no change in price of coal in this market. Quote same as last report.

Per ton of 2000 lb.

| | Bush. | Ton. |
|---|---|---|
| Youghiogheny, or Pittsburgh, afloat | 11 c. | $2 86 |
| Pomeroy coal | 7½ c. | 1 95 |
| Cannel coal | 18 c. | 4 68 |
| Semi Cannel | 10 c. | 2 60 |

The following are retail prices delivered:

| | | |
|---|---|---|
| Youghiogheny | 15 c. | $3 90@$ |
| Pomeroy | 12 c. | 3 12@ |
| Cannel | 22 c. | 5 72@ |
| Kanawha Semi Cannel | 14c. | — 3 64 |
| Anthracite | | — 11 00 |
| Foundry coke | 12c. | — |
| Soft coke | 8c@10c. | — |

### Cleveland, O.

Aug. 24, 1874.

Reported by our Special Correspondent.

Continue quotations.

Per ton of 2000 lb.

| | | | |
|---|---|---|---|
| Youghiogheny, l'p, f.o.b. | $4 65 | Straitsville | $3 50 |
| Youghiogheny, nut | 3 60 | Columbiana | 3 75 |
| Briar Hill, (Church Hill) | 4 45 | Strip Vein | 4 00 |
| " " (Brookfield) | 4 30 | Mountain Blossburg (blacksmith) | 6 00 |
| Massilon, according to quality | $3 60 to 3 85 | Darlington and Sterling Cannel | 4 60 |
| Hocking Valley | 3 75 | | |

### Council Bluffs, Iowa.

Aug 24, 1874.

Reported by our Special Correspondent.

Trade at this point is still quiet.

Per ton of 2000 lb.

| | | | |
|---|---|---|---|
| | ON TRACK. | | |
| Blossburg (blacksmith) | $14 00 | Wyoming | 14 00 |
| Anthracite | 15 00 | Missouri | 6 00 |
| Iowa | 4 50 | Kansas | 6 00 |
| | RETAIL. | | |
| Blossburg | $16 00 | Wyoming | $12 00 |
| Anthracite | 16 00 | Missouri | 8 00 |
| Iowa | 6 50 | Kansas | 8 00 |

### Detroit, Mich.

Aug. 25, 1874.

Specially reported by Messrs. ROBINSON & KEYS, dealers in all kinds of coal.

Prices unchanged.

Per ton of 2000 lb.

| | | | |
|---|---|---|---|
| Lehigh Lump, per ton | $10 50 | Blossburg | 8 50 |
| Lehigh " prep. sizes. | 9 50 | Briar Hill | 7 50 |
| Wilkes-Barre, Grate and Egg | 8 50 | Willow Bank | 7 00 |
| Wilkes-Barre, Stove and Nut | 9 00 | Erie | 7 50 |
| | | Massillon | 7 00 |

### Denver, Col.

RETAIL PRICES.

Per ton of 2000 lb.

| | | | |
|---|---|---|---|
| Canon | $6 50 | Boulder Valley | $4 75 |
| Marshall | 5 50 | Eulner | 5 50 |
| Murphy | 5 50 | Black Diamond | 5 50 |
| Baker | 5 00 | | |

### Erie, Pa.

Aug. 25, 1874.

Reported by our Special Correspondent.

Wholesale, per ton of 2,000 lb.

Following are present quotations:

Anthracite f.o.b. vessels.

| | | | |
|---|---|---|---|
| Lump | $6 60 | Stove | $6 65 |
| Grate | 6 10 | Chestnut | 6 05 |
| Egg | 6 10 | | |

Bituminous f.o.b.

| | | | |
|---|---|---|---|
| Briar Hill | $4 40 | Beaver | $4 25 |

Retail, per ton of 2,000 lb.

Anthracite.

| | |
|---|---|
| Lehigh, chestnut | $8 50@$9 00 |
| " prepared | 8 75@ 9 25 |
| Lykens Valley, stove | 9 50@10 00 |
| Lykens Valley, chestnut | 8 00@ 8 50 |
| Schuylkill and Wilkesbarre | 7 50@ 8 00 |
| Blossburg (Smithing) | 7 50@ 8 00 |

Bituminous.

| | |
|---|---|
| Chenango Valley (Ormsby), lump | $6 00 |
| Mahoni ng Valley (Briar Hill), " | 5 00 |
| Nut, allkinds | 4 00 |
| No. 1 slack | 3 06 |
| Bituminous, by car loads to factories | 5 35 |

### Indianapolis, Ind.

August 24, 1874.

Specially reported by Messrs. H. McCOY & Co.

No change in market to report. Please continue former quotations.

Per ton of 2000 lb.

BITUMINOUS.

| | | | |
|---|---|---|---|
| Best Block coal | $2 90 | Indiana cannel | 6 50 |
| Best Highland | 2 40 | Hocking Valley | 3 00 |
| Block Nut | 1 65 | Youghiogheny | 5 42 |
| Highland " | 1 65 | Blossburg (smithing) | 7 30 |
| Block slack, per car load | 15 00 | Piedmont " | 7 75 |
| Peytona cannel per ton | 8 50 | Gas coke, per bushel | 9½c |

ANTHRACITE (Lackawanna).

| | | | |
|---|---|---|---|
| Grate | $8 55 | Chestnut | 8 55 |
| Egg | 8 55 | Stove | 8 55 |

Retail, per bushel of 70 lb.

| | | | |
|---|---|---|---|
| Block | 14c. | Peytonia Cannel | 32c. |
| Highland | 12 | Indiana " | 28 |
| Highland Nut | 9 | Youghiogheny | 25 |
| Block " | 9 | Blossburg | 27 |
| Slack | 7 | Piedmont | 30 |

ANTHRACITE.

| | per ton. | | per ton. |
|---|---|---|---|
| Grate | $10 50 | Stove | $10 50 |
| Egg | 10 50 | Chestnut | 10 50 |

### Louisville, Ky.

Aug. 25, 1874.

Specially Reported by Messrs. BYRNE & SPEED.

Please report our coal market the same as last week.

| | |
|---|---|
| Pittsburgh, per load of 1900 lb | $3 50 |
| Pomeroy | 3 00 |
| Buckeye Cannel | 5 50 |
| Peytona Cannel | 6 00 |
| Nut and Slack | 2 75 |
| Kentucky lump, per load | 2 75 |
| " nut, " | 2 25 |
| " Slack " | 1 30 |
| City-made Coke, per bushel | 12c |
| Kentucky on cars at wholesale per bush. | 8½c |
| Anthracite, per ton | $10 to $10 50 |

### Milwaukee, Wis.

Aug. 25, 1874.

Specially reported by Messrs. R. P. ELMORE & Co.

Prices firm.

Retail prices per ton of 2000 lb.

| | | | |
|---|---|---|---|
| Lehigh Lump | $10 00 | Briar Hill, select | $8 50 |
| Lehigh Prepared | 10 50 | Blossburgh | 8 00 |
| Lackawanna | 9 50 | Pittsburgh | 7 50 |

### New Orleans, La.

Aug. 22, 1874.

Specially reported by Messrs. P. & R. DEVERGES, Wholesale and Retail Dealers in Pittsburgh, Anthracite and Cannel coal.

No change in quotations.

| | |
|---|---|
| Pittsburgh coal, retail, per bbl | 60c. |
| " wholesale | 40c. |
| " per hhd | $6 00 |
| " to steamboats, per box | 50c. |
| " to manufacturers, per bbl | 55c. |
| Anthracite, retail, per ton | $12 50 |
| " wholesale per ton | $9 00@9 25 |
| Spadra (Arkansas) coal, retail, per bbl | 75c. |
| Mt. Carbon, wholesale, per bbl | 45c. |
| " " retail per bbl | 65c. |
| Scotch Cannel, per bbl | 1 00 |

### Pittsburgh, Pa.

Aug. 24, 1874.

Reported by our Special Correspondent.

The late flood damaged the Little Saw Mill River Railroad to the extent of about $30,000. The road will probably be fully repaired within six weeks from this date. But little damage was done to the other coal roads in this vicinity. Three or four mines in the Saw Mill River district are working at three cents per bushel for digging. Mines on the Pennsylvania Railroad and the Allegheny Valley Railroad are working at three and a half cents. All mines on the Pan Handle Railroad are stopped, the miners demanding four cents and the operators offering three and a half cents, which they say is all the present price of coal, with the limited demands, will justify. Trade remains dull, with prospects anything but flattering. Prices remain nominally unchanged.

Per ton of 2000 lb. and Bushel of 76 lb.

| | per ton. | | per ton |
|---|---|---|---|
| Youghiogheny coal | $2 15 | Pittsburgh retail delivered per bushel | 9½c@11½c |
| " coke | 2 75 | Anthracite all sizes | $7 00 |
| Connellsville coal | 2 25 | " retail deliverd. | 7 50 |
| " coke | 3 25 | | |
| Pittsburgh coal | $2 00 | | |

### San Francisco.

From the *Commercial Herald*, August 13.

Imports of coal from January 1st to August 1st:

| | Tons. | | Tons. |
|---|---|---|---|
| Anthracite | 4,165 | Vancouver Island | 31,719 |
| Australian | 44,817 | Bellingham Bay | 10,010 |
| Coos Bay | 29,416 | Rocky Mountain | 313 |
| Cumberland | 5,236 | Seattle | 1,835 |
| English | 3,254 | Mt. Diablo (6 mos.) | 93,193 |

We have had numerous arrivals during the week from the Colonies, bringing some 10,000 or more tons Australian, nearly all of which was sold prior to arrival at $10 or less, chiefly below current price. The one cargo unsold is held at $10 50, and for which $10 75 is offered. We have also five vessels from New York and one from Boston, bringing 1000 tons and 500 hhds Anthracite and Cumberland. The *Atalanta* from Nanaimo has 1400 tons.

### St. Louis, Mo.

Aug. 22, 1874.

Specially Reported by the COLLINSVILLE COAL AND MINING COMPANY.

ANTHRACITE.

Per ton of 2000 lb.

| | City delivery. |
|---|---|
| Lehigh Lump | $13 50 |
| Lackawanna and Wilkesbarre | 12 50 |
| Semi Anthracite | 9 50 |

BITUMINOUS.

Per ton of 2000 lb.

| | E. St. Louis. | City delivery |
|---|---|---|
| Washington Indiana—smithing | $4 00 | $4 87 |
| O'Fallon, Ills | 2 00 | 3 00 |
| Collinsville and Belleville, Ills | 1 75 | 2 75 |
| Indiana Cannel | 6 00 | 7 00 |
| Missouri Cannel | | 5 00 |

Retail, 25c. per ton additional.

### Toledo, Ohio.

August 22, 1874.

Per ton of 2000 lb.

Specially reported by Messrs. GOSLINE & BARBOUR.

| Retail. | | Retail. |
|---|---|---|
| Wilkes-Barre and Scranton, Large and Small Egg, | $8 00 | BITUMINOUS. Blossb'g and Cumberl'd, $8 00 |
| Stove | 8 25 | Massillon Lump | 6 00 |
| Chestnut | 8 00 | Briar Hill | 7 00 |
| Lehigh Lump | 10 00 | Straitsville | 3 75 |
| | | Hocking Valley | 4 00 |

### Halifax, N. S.

Aug. 24, 1874.

Reported by our Special Correspondent.

Continue quotations.

Prices per ton of 2240 lb. in gold.

| | | | |
|---|---|---|---|
| Sydney (old mines) | $4 50 | Little Glace Bay | 3 50 |
| Gowrie | 3 50 | Blockhouse | 4 00 |
| Victoria | 3 75 | Albion (at Railroad) | 4 50 |

### Montreal.

Aug. 24, 1874.

Reported by our Special Correspondent.

No change at this point.

Per ton of 2,240 lb.

| | | | |
|---|---|---|---|
| Scotch Steam | $6 25@6 50 | Cape Breton Steam | $5@5 50 |
| Pictou " | 6 00@6 25 | Newcastle Smiths, | 8@8 25 |

Anthracite at retail, 2,000 lb., delivered:

| | | | |
|---|---|---|---|
| Egg | $8 00 | Nut | $8 00 |
| Stove | 8 50 | | |

### Toronto, Ont.

Aug. 24, 1874.

Reported by our Special Correspondent.

The prices and terms of the Toronto Coal Exchange are as follows:

ANTHRACITE.

| | per ton. | | per ton. |
|---|---|---|---|
| Broken | $7 65 | Chestnut | $7 65 |
| Egg | 7 65 | Lehigh | 9 00 |
| Stove | 8 15 | | |

BITUMINOUS.

| | | | |
|---|---|---|---|
| Blossburgh | 7 50 | Screenings | 5 00 |
| Briar Hill | 7 00 | Soft Nut | 5 50 |

## Towing.

Per ton of 2240 lb.

FROM NEW YORK TO POINTS ON THE HUDSON RIVER.

| | per ton. | | per ton. |
|---|---|---|---|
| Manhattanville | 8 c. | Haverstraw | 17 c. |
| Spuyten Duyvel | 9 " | Verplanck's Point | 17 " |
| Yonkers | 10 " | Peekskill & Newburg | 18 " |
| Hastings | 11 " | West Point & Cold Sp'g | 20 " |
| Piermont & Dobbs Ferry | 13 " | Poughkeepsie | 22 " |
| Nyack & Tarrytown | 15 " | Rondout | 23 " |
| Sing Sing | 16 " | Hudson | 25 " |
| Croton Landing | 17 " | | |

Boats of 100 tons and under—per boat.

| | | | |
|---|---|---|---|
| Manhattanville | $11 00 | Spuyten Duyvel | $13 00 |
| Yonkers | 15 00 | Tarrytown | 18 00 |
| Sing Sing | 20 00 | Peekskill | 20 00 |
| Newburgh | 25 00 | Poughkeepsie | 30 00 |

ON LONG ISLAND SOUND.

| | per ton. | | per boat. |
|---|---|---|---|
| Norwalk & Bridgeport | 33½ c. | Port Morris | $20 00 |
| New Haven | 33½ " | West Farms, mouth of Creek | 25 00 |
| Derby ($50 per b't extra) | 33½ " | West Farms | 35 00 |
| Southport & Westport | 40 " | West Chester | 30 00 |
| Milford | 40 " | College Point | 25 00 |
| Branford | 45 " | Flushing & White Stone | 30 00 |
| New London | 60 " | East Chester Town Dock | 60 00 |
| Middletown | 65 " | New Rochelle & Glen Cove | 50 00 |
| Norwich | 68 " | Mamaroneck & Port Chester | 70 00 |
| Hartford & Stonington | 75 " | Greenwich, Stamford & Darien | 75 00 |
| Mystic | 75 " | | |
| | per boat | | |
| Harlem | $18 00 | | |
| Mott Haven | 18 00 | | |

### Harbor Towing.

| From Hoboken to | Loaded. | Light. |
|---|---|---|
| 53d st., towing limits per boat.... | $6 00 | $5 00—$11 00 |
| Gowanus " " .... | 5 00 | 6 00— 14 00 |
| Newtown Creek " " .... | 10 00 | 9 00— 19 00 |
| Port Johnston " " .... | 9 00 | 9 00— 16 00 |
| 130th street, North River " .... | .... | ....— 18 00 |
| From East River to Weehawken and return to East River ..... | 9 00 | 7 00— 16 00 |

To 61st st., $12 extra; to 79th st., $14 extra; to 93d st., $16 extra.

## Coal Freights from the Anthracite Mines to the Principal Markets.

We refer to our issue of July 11th any one desirous of consulting the above.

### Freights.

*To River, Sound, and Coastwise Points.*
For the week ending August 7th, 1874.
Per ton of 2240 lb.

| PORTS. | From Baltimore and Georgetown. | From Port Richmond, Philadelphia. | *From Elizabethport, Port Johnson, South Amboy, Hoboken and Weehawken |
|---|---|---|---|
| Augusta, Me. | 2 00 | .... | .... |
| Albany | 2 30 | .... | .... |
| Amesbury, Mass | .... | .... | .... |
| Bangor, Me | 1 75 | 1 60 | 1 20 |
| Bath, Me | 1 50 | 1 60 | 1 15 |
| Baltimore | .... | .... | .... |
| Boston, Mass | 1 50 | 1 50 | 1 20 |
| Bridgeport, Ct | 1 40 | 1 25 | 60 |
| Bristol, Ct | .... | 1 25 | 1 00 |
| Derby | .... | 1 25 | 1 00 |
| Dighton | 1 60 | .... | .... |
| East Cambridge | .... | 1 50 | ††1 20 |
| Fall River | 1 50 | 1 25 | 1 00 |
| Hackensack | .... | .... | ... |
| Hartford | 2 00 | .... | 1 20 |
| Hoboken | 1 25 | 95 | 40 |
| Hudson | 1 50 | .... | .... |
| Jersey City | 1 25 | 95 | 40 |
| Middletown | 1 50 | .... | 1 00 |
| Mystic | .... | .... | 1 00 |
| Newark | 1 60 | .... | .... |
| New Bedford | 1 60 | 1 25 | 1 00 |
| Newburyport | 1 60 | 1 60 | 1 35 |
| New Haven | 1 50 | 1 25 | 60 |
| New London | 1 50 | 1 25 | 1 00 |
| Newport | .... | 1 25 | 1 00 |
| New York | 1 35 | ¶ 95 | 40 |
| Norfolk, Va | 90 | 90 | .... |
| Norwalk | 1 50 | 1 25 | 75 |
| Norwich | 1 60 | 1 25 | 1 00 |
| Pawtucket | 1 60 | 1 25 | ‡‡1 05 |
| Philadelphia | 90 | .... | .... |
| Portland | 1 50 | 1 60 | 1 00 |
| Portsmouth, N. H. | 1 60 | 1 60 | 1 30 |
| Providence | 1 50 | 1 25 | 1 00 |
| Petersburg, Va | 1 50 | .... | .... |
| Richmond, Va | 1 10 | 1 05 | .... |
| Rockport | .... | 2 50 | .... |
| Saco | .... | 2 50 | 1 30 |
| Sag Harbor | 1 25 | .... | 75 |
| Salem | 1 60 | 1 50 | 1 00 |
| Savannah, Ga | 2 25 | .... | .... |
| Stamford | .... | 1 25 | 75 |
| Stonington | .... | 1 25 | 90 |
| Taunton | .... | .... | 1 35 |
| Troy | 2 30 | .... | .... |
| Warren | .... | .... | 1 00 |
| Washington | .... | .... | .... |
| Wareham | 1 60 | .... | 1 05 |
| Wilmington, Del | 90 | .... | .... |

Freights from Rondout are either 20 cents over New York rates, or New York rates and towing up and down as vessels may elect.

¶ This is the rate alongside. Delivery on wharf costs 15c. additional.

†† Towing extra.

‡‡ 3c. per ton per bridge extra.

* Freights from South Amboy are 5c. above these rates.

Rates by barges from Baltimore to New York, are quoted at $1.60.

## Delaware and Raritan Canal.

Rates of the above, for August, may be found in our issue of Aug. 1st.

## Freights on Bituminous Coals from the Mines to Tide-Water Shipping Ports.

Rates for the above may be found in our last issue.

## REVIEW OF THE BRITISH COAL AND IRON TRADES.

From our Exchanges to August 12th, 1874.

Prices in the iron trade remain about the same as last week, with the exception of Baldwin's sheets, which have been reduced 20/ per ton. In all the iron markets we notice a strong desire on the part of buyers to defer placing orders, feeling sure that ere long the cost of fuel will be so far reduced as to admit of a further reduction in finished iron. And from the tenor of our advices from Liverpool we learn that the export merchants who do most in iron say that before a foreign demand can be excited, sufficient to create a healthy business, prices of best brands of iron must be at least £2 per ton less than they are at present. Then, with common bars at £8, and other iron in proportion, they believe a large trade would be done with many of our oldest and best customers in the United States, as well as with those new countries that are only waiting for a more moderate price in iron products to develope their resources by railway extension and other constructive enterprises. A friend, well acquainted with the iron trade, writes us, under date of the 7th, as follows: "The Bank of England raised its rate of interest again on 6th of August to 4 per cent., an advance of 1½ per cent. since the 30th ult. This indicates a revival of trade, so far a healthy sign. It was impossible for business to continue in the stagnation of the last few months. The drain for gold has also been considerable. As the harvest has commenced the demand will increase, and the tendency is likely to be upwards for a time. With the bountiful harvest that is about to be reaped, we may expect the coin, now being withdrawn, rapidly returned to the bank, and money again cheaper. The pig iron market has also been subject to many fluctuations during the last few weeks, especially at Middlesbrough, although there has been a most determined attempt to "bear" the market by buyers giving out their orders in a niggardly manner, yet the pressure of orders for foundry iron, especially for immediate delivery, is so great as to force up prices fully 10/ per ton, and some makers are fully sold for immediate delivery. The same thing is happening in Derbyshire, although their transactions have not been disorganized to the same extent as the Middlesbrough district was by the strike of the ironstone getters. The demand for Cumberland hematites is also improving. Bar iron has been somewhat slack, also plates, but sheet iron is in full demand, and the pressure of orders for galvanized sheets is considerable.

We may quote as follows: Cleveland Pig, net cash, f.o.b. in the Tees No. 1, £3 16/; No. 2, £3 13/; No. 3, £3 11/; No. 4, £3 5/; No. 4 forge, £2 18/, mottled, £2 17/; cinder, £2 9/. At Barrow-in-Furness, best Bessemer pig has declined to £4 10/ at the works.

At *Middlesbrough*, No. 1 is 75/; No. 3, 70/; No. 4 forge, 57/ 6d., net cash.

In *South Staffordshire*, cinder pigs are £3@£3 5/, and all mine, £5 10/@£5 15/. The number of furnaces blowing in South Staffordshire has been increased to 50 out of 153 built, 53 of these, however, have not been in working order for some years past.

In *Birmingham*, prices may be quoted as follows: Cold blast Lilleshall pig No. 1 and 2, £7 5/; hot blast, £6 10/; Derbyshire pig, No. 1, £4 15/; Staffordshire No. 3, £4 10/.

The *Coal* trade throughout England shows generally a fair amount of business,

*London.*—There were received in London during the seven months of the year: By water, 1,518,523 tons; by rail, 2,608,391 tons; total 4,127,914 tons, which was 296,208 tons less than the corresponding period of 1873, notwithstanding coal is very much cheaper now than it was then. Present wholesale prices are 24/ for Hetton and Hartlepool, 21/@23/ for other kinds.

In *Lancashire*, at the pits, best Arley mine coal is from 15/@15/ 6d.; house coals, 10/@12/ 6d.; steam fuel, 10/ 6d.; burgie, 7/ 9d.@8/; slack, 6/@7/ 6d. The wages question is again creating some uneasiness, the coal masters having given notice of a further reduction of 20 per cent. in wages in Durham. As the men are now receiving 48 per cent. more than in 1871, it is probable the reduction will be accepted. The masters offer to arbitrate the matter if the men do not accept without.

*In Wales*, the iron trade is in a little better condition though still far from satisfactory. The impression gains ground that the iron makers and colliers will accept the proposed reduction of 10 per cent in wages. Coal is held at about 10/ per ton, but in some districts it does not move rapidly at this price.

*Scotland.*—The increase in prices of pig iron is maintained. Under date August 14th, Messrs. JOHN E. SWAN & BROS., of Glasgow and Middlesbrough, advise us that Warrants 3-5 No. 1, 2-5 No. 3 g.m.b., were 88/ 6d. net cash, ex store. There were at that date 104 furnaces blowing and 52 out. The quantity of pig iron in store at Glasgow was on the 14th inst. 22,537 tons as against 44,438 at the same time last year. The following are present quotations: Gartsherrie, 115/; Coltness, 117/ 6d.; Summerlee, 110/; Carnbroe, 100/, f.o.b.; in Glasgow 1/ per ton extra on above; Glengarnock, 102/ 6d.; Eglinton, 95/, f.o.b., at Ardrossan. Freights from Glasgow or Ardrossan to New York were quoted at 8/; to Boston, 18/; New Orleans, 20; Baltimore, 17/; Quebec, 8/ 6d.; Philadelphia, 16/; Montreal, 10/.

Niellom Bessemer, Hematite pig iron, f.o.b. at Barrow, is quoted 95/ per ton for No. 1.

## IRON MARKET REVIEW.

### New York.

Aug. 27, 1874.

There are as yet no signs of revival in the heavy iron trade of this city, and we are informed by our correspondents in Philadelphia and elsewhere that in their districts the trade is in the same condition, and by no means justifies the financial reports published in some of the papers. There is no apparent improvement in this market; it is dull and depressed, no transactions worthy of note, and prices nominally unchanged. We understand that the Allentown Company refuses $31, and even $31 50, for its iron; but equally good brands of Lehigh are offered at $31, and even less. From the general condition of trade, and particularly of the iron trade, we obtain the painful impression that the revival of the iron business is still a good way off, and we expect, if not lower, at least no higher prices for heavy iron in this market for some time. There is no indication of such a revival as would take our surplus stocks, and the furnaces now blowing appear to be fully sufficient, and even more than sufficient, to supply our current wants. Iron is going down in England, where wages and fuel are constantly undergoing reductions in price. Our iron masters must follow the same course, and with iron being made for less money, we cannot see how the prices for the large stocks on hand are to advance, if they can be maintained.

***American Pig.***—We learn of sales of about 900 tons of Lehigh, Nos. 1 and 2, at $31 for No. 1, and $28½@29 for No. 2. These may be considered the present prices of strictly first-class anthracite irons. Inferior qualities can be obtained at lower rates. We quote No. 1, $29@31; No. 2, $28@29; forge, $25@28.

***Scotch Pig.***—As we stated several weeks ago, Scotch pig iron has constantly advanced, owing to the very small lot on hand (probably not over 500 or 600 tons). Prices to-day are: Eglinton, $33@35; Glengarnock, $37—with one lot of inferior quality which can be bought for less. There is no Coltness, Langloan, Gartsherrie, or Summerlee in the market. From cable advices we learn that prices in Scotland have receded about 6/ from our quotations of last week, being now for Coltness, 112/ 6d.; Gartsherrie, 110/. With these changes in prices in Scotland and here, the price of Scotch iron is about the same here to-day as it is in Glasgow, leaving nothing for freights, and the price of the small lot here will, doubtless, be further advanced.

***Rails.***—We learn of a sale of about 500 tons English, to go East, at $50, gold, and of 500 tons at private terms. We quote American $57@59, and foreign, $48@49, gold.

***Steel Rails***—May be quoted nominally at $90@95 at the works.

***Old Rails.***—We have no transactions to report, and quote $31@35.

***Scrap Iron.***—No transactions, and prices unchanged. No. 1 wrought, $34@36; Cast, $22@26.

***Spiegeleisen.***—In the absence of business we quote nominally $50, gold; No. 1, foreign, is quoted at £6 f. o. b. at Rotterdam. Best English makes £7@£7 10/, f. o. b. in English port.

### Boston.

Aug. 22, 1874.

From the *Commercial Bulletin.*

Pig has had a small business for the week, rather less, if anything, than a week ago. The sales being almost wholly in American. The trade are looking anxiously for the official publication of the Iron and Steel Association which is to give the accurate facts as to the capacity of our American furnaces and mills. The secretary, Mr. JAMES M. SWANK, of Philadelphia, announces that it will be ready by the first of September.

Bar has had a trifling jobbing trade at 3c per pound, equal to $67 20 a ton. There is no enquiry for special styles or sizes, but a sort of helter-skelter demand through dealers' assortments, a bar here and a bar there, which in the aggregate has given something to be said of sales.

Steel is in a trifling better request, and a more noticeable firmness is running through the market.

We quote yard lots of American Pig Iron at $36 00@40 00 per ton, including No 2 extra at $34@36, and No. 1 at $36@38. We quote Eglinton at $38, Coltness Gartsherrie at $45@46, Charcoal at $45@55.

American and English refined Bar Iron is selling at $67 50@$70 per ton for the ordinary sizes, and $85@90 for extra sizes, according to size. Cast steel is selling at 17½c, gold, for English, 15@16c for American, currency.

### Chicago

Aug. 25, 1874.

Specially reported by Messrs. ROGERS & Co., dealers in Scotch and American pig iron.

Your review of the pig iron market in the JOURNAL of the 20th is truthful and correct in every particular. Large buyers can to-day purchase round lots of iron on their own terms. There are no sales made that do not pay a loss of $1 to $3 per ton to the furnaces; 9, out of 11, of the Missouri furnaces that smelt ore with coke and bituminous coal are out of blast, and at least one-half of the Lake Superior charcoal furnaces are idle. Still, charcoal iron is a drug, in this market and Cleveland, and selling below cost of production.

| | |
|---|---|
| No. 1 Coltness | $46 00@ .... |
| No. 1 Gartsherrie | 45 00@ .... |
| No. 1 Summerlee | 44 00@ .... |
| No. 1 Glengarnock | 42 00@ .... |
| No. 1 Eglinton | 40 00@ .... |
| Warner's "American Scotch" | 41 00@ .... |
| Massilon No. 1 Foundry | 37 00@ .... |
| No. 1 Grand Tower Mo. ores (Bituminous) | 35 00@ .... |
| No. 2, " " " | 32 00@ .... |
| No. 1 Mill | 31 00@ .... |
| Union "A" 1 (Anthracite) | 34 00@ .... |
| Union "B" 1 (Anthracite) | 32 00@ .... |
| No. 1 Lake Superior (charcoal) | 36 00@ .... |
| No. 2 Lake Superior " | 34 00@ .... |
| No. 3 Lake Superior " | 36 00@ .... |
| No. 4 Lake Superior " | 42 00@ .... |
| Bessemer Steel Rails | 90 00@95 00 |
| New Iron Rails | 55 00@ .... |
| Old Rails | 28 00@ .... |

### Cleveland

Aug. 25, 1874.

Specially reported by Messrs. C. E. BINGHAM & Co., dealers in pig iron and iron ore.

Market improving

We quote as follows:

| | | |
|---|---|---|
| No. 1, Anthracite Foundry | $35 00@.... | —4 mos |
| No. 2, " " | 34 00@.... | —4 mos |

| | | | |
|---|---|---|---|
| No. 1, Bituminous | | 33 00@ ... | —4 mos |
| No. 2, | " | 31 00@.... | —4 mos |
| No. 1, " | Grey Forge | 29 00@.... | —4 mos |
| No. 1, Massilon Black Band | | 36 00@.... | —4 mos |
| No. B-1 " | " | 34 00@.... | —4 mos |
| No. 2 " | " | 32 00@.... | —4 mos |
| No. 1, Lake Superior Charcoal | | 36 50@.... | —4 mos |
| No. 2, " | " | 35 50@.... | —4 mos |
| No. 3, " | " | 38 00@.... | —4 mos |
| No 4, " | " | 40 00@ ... | —4 mos |
| Nos. 5 and 6 " | " | 42 00@.... | —4 mos |
| American Scotch, No. 1, Cherry Valley | | 35 00@.... | —4 mos |
| " " No. 2 | | 33 00@.... | —4 mos |

### Cincinnati.

August 25, 1874.

Specially reported by Messrs. TRABER & AUBREY, commission merchants for the sale of pig iron, blooms, ore, etc.

The past week has developed no new feature in our pig iron market. There is a steady and fair demand for foundry grades but forge iron continues dull and neglected. Prices are firm at our quotations.

| | | |
|---|---|---|
| CHARCOAL. | | |
| Hanging Rock, No. 1, Foundry | $33 00@34 00 | —4 mos |
| " No 2, " | 31 00@32 00 | —4 mos |
| " Mill | 28 00@29 00 | —4 mos |
| Tennessee No 1, Foundry | 31 00@32 00 | —4 mos |
| Tennessee. No. 2 " | 29 00@30 00 | —4 mos |
| " Mill | 28 00@29 00 | —4 mos |
| Missouri, No. 1, Foundry | 34 00@35 00 | —4 mos |
| STONE COAL. | | |
| Ohio No. 1, Foundry | 31 00@32 00 | —4 mos |
| " No. 2, " | 29 00@30 00 | —4 mos |
| Ohio Mill | 27 00@28 00 | —4 mos |
| Missouri, No. 1, Foundry | 34 00@32 00 | —4 mos |
| " No. 2, " | 30 00@31 00 | —4 mos |
| " Mill | 28 00@29 00 | —4 mos |
| CAR-WHEEL. | | |
| Hanging Rock, C. B. | 50 00@55 00 | —4 mos |
| Tennessee " | 45 00@48 00 | —4 mos |
| Missouri " | 45 00@48 00 | —4 mos |
| Alabama " | 45 00@48 00 | —4 mos |
| BLOOMS. | | |
| Charcoal | 85 00@ 95 00 | —cash |
| SCRAP IRON. | | |
| Cast | 80@ 90 | —cash |
| Wrought | 1 25@ 1 50 | —cash |

### Indianapolis, Ind.

Aug. 25, 1874.

Specially reported by NELSON KINGMAN, broker and dealer in pig iron, etc.

Present quotations are as follows:

| | | |
|---|---|---|
| New Rails at mill | $64 00@66 00 | |
| Old Rails " | 31 00@32 00 | |
| Hanging Rock Charcoal Pig No. 1 foundry | 35 00@36 00 | —4 mos |
| " " " " " 2 " | 32 00@33 00 | —4 mos |
| " " " " Mill | 29 00@31 00 | —4 mos |
| STONE COAL. | | |
| Indiana No. 1 Foundry pig Planet furn'e. | 32 00@34 00 | —4 mos |
| " 2 " " " | 31 00@32 00 | —4 mos |
| " 1 Forge " " | 29 00@ ... | —4 mos |
| " 2 " " " | 27 00@ ... | —4 mos |
| Ohio No. 1 Foundry pig | 33 00@34 00 | —4 mos |
| " 2 " | 31 00@32 00 | —4 mos |
| " 1 mill | 28 00@30 00 | —4 mos |
| Merchant Bar, card rates | 52 00@54 00 | —3 mos |
| 1st quality C. H. No. 1 Boiler Plates, per lb | 5¾@6 c. | —3 mos |
| 1st " Com Sheet, for No. 24, W.G. " | 4¾c. | —3 mos |
| 1st " Charcoal Sheet " " " | 6 c. | —3 mos |
| Best Bloom Galvanized Sheet, discount 20 per cent | | —cash. |
| 2d quality " " " 30 " | | —cash. |

f. o. b in Indianapolis.

### Louisville.

Aug. 25, 1874.

Specially reported by GEORGE H. HULL, Esq.

Please report the market same as last week.

The usual time, 4 months, is allowed on the quotations below.

| | | |
|---|---|---|
| HOT BLAST—CHARCOAL. | | |
| No. 1 foundry, from Hanging Rock ores | $33 00@34 00 | |
| No. 2 " " " | 30 00@31 00 | |
| No. 1, forge, " " | 28 00@29 00 | |
| No. 1, foundry, " Tennessee " | 31 00@32 00 | |
| No. 2 " " " | 28 00@29 00 | |
| No. 1, forge, " " | 27 00@28 00 | |
| No. 1, foundry, " Alabama " | 31 00@32 00 | |
| No. 1 " " Iron Mountain " | 32 00@35 00 | |
| HOT BLAST—STONECOAL. | | |
| No. 1, foundry, from Missouri ores | 33 00@34 00 | |
| No. 2, " " " | 30 00@32 00 | |
| No. 1, forge " " " | 29 00@30 00 | |
| COLD BLAST—CHARCOAL. | | |
| Car Wheel from Hanging Rock ores | 50 00@54 00 | |
| " " Tennessee " | 46 00@48 00 | |
| " " Alabama " | 48 00@50 00 | |
| " " Georgia " | 48 00@50 00 | |
| " " Missouri " | 46 00@48 00 | |
| " " Kentucky " | 48 00@50 00 | |

### Milwaukee, Wis.

August 24, 1874.

Specially reported by Messrs. R. P. ELMORE & Co.

Prices firm at the following quotations:

Per ton of 2,240 lb.

| | | |
|---|---|---|
| Scotch ranges | $40 00 to $45 00 | |
| No. 1, Lake Superior Charcoal | 36 00 to 38 00 | |
| " 2, " " | 34 00 to 36 00 | |
| " 1, " " Anthracite | 35 00 to 36 00 | |
| " 2, " " " | 33 00 | |

### Philadelphia, Pa.

August 27, 1874.

Reported by our special correspondent.

In the iron trade there is no important change to note in its aspects. The demand is no larger, and it is next to an impossibility to effect sales of pig iron in any considerable lots. There is a steady and very moderate demand to supply current foundry and other manufacturing purposes. Some of the bolting mills in this State are quite busy on special kinds of bar iron; but there is no general demand, nor is there any expected by the trade, thus far this fall, that will make even a slight inroad on the accumulated supplies. No sales of any magnitude have been reported for the week; small lots are even said to be on "private terms." Prices are nominally as I quoted last week, but liberal concessions would be made to an earnest buyer—the object foremost in the minds of holders being to sell. The railroad interests in this State are getting into better shape. A demand from this quarter for iron for renewal purposes must soon spring up, which will be the first real impetus of the trade.

### Pittsburgh.

Aug 25, 1874.

Specially reported by A. H. CHILDS, Esq., commission merchant for the sale of pig iron, blooms, ore, &c.:

The metal market is dull and drooping, with few buyers, excepting for immediate use, or where a tempting concession is offered.

Quotations are:

| | | |
|---|---|---|
| No. 1 Foundry, anthracite or bituminous | $29 00@30 00 | —4 mos |
| No. 2. " " " | 27 50@28 00 | —4 mos |
| Gray forge " " | 26 00@27 00 | —4 mos |
| White and mottled " " | 24 00@25 00 | —4 mos |

The following is from the *Commercial* of Aug 22:

We are compelled to report a very dull market for pig iron during the past week, with a limited amount sold.

The price remains about the same as it has been for several weeks past. There is but little disposition to buy, and we do not learn of any great disposition to sell at current rates except in limited quantity.

All parties agree that, unless there is a better demand very soon, there can be nothing to induce furnace men, whose furnaces are now out of blast, to purchase stock and start up, and unless the market improves early in September, it will be too late to secure a stock of ore this fall's run.

We are reported the following sales:

| | | |
|---|---|---|
| BITUMINOUS COAL SMELTED FROM LAKE SUPERIOR ORES. | | |
| 100 tons gray forge | $27 00 | —4 mos |
| 100 " No. 2 foundry | 27 50 | —4 mos |
| 75 " white and mottled | 24 25 | —4 mos |
| 50 " " " forge | 24 00 | —4 mos |
| 50 " " " " | 24 00 | —4 mos |
| 30 " No 2 foundry | 27 00 | —4 mos |
| 30 " No. 1 foundry | 29 00 | —4 mos |
| 30 " gray forge | 27 00 | —4 mos |
| 20 " No. 1 foundry | 29 00 | —4 mos |
| 10 " foundry | 29 00 | —4 mos |
| HANGING ROCK CHARCOAL. | | |
| 78 tons No. 1 foundry | $36 00@38 00 | —4 mos |
| 69 " mill | 31 50 | —4 mos |
| 35 " No. 2 foundry | 34 00 | —4 mos |
| 25 " 1 o. 1 foundry | 37 00 | —4 mos |
| 20 " " | 37 00 | —cash. |
| 20 " mill | 30 00 | —4 mos |
| 15 " No. 2 foundry | 33 00 | —4 mos |
| ANTHRACITE. | | |
| 200 tons gray forge | $27 00 | —5 mos |
| 20 " No. 2 foundry f. s. at fur. | 27 00 | —cash. |
| ALLEGHENY COKE. | | |
| 625 tons gray forge | $27 00 | —time. |
| EASTERN CHARCOAL. | | |
| 10 tons No. 1 cold blast | $47 00 | —4 mos |
| MUCK IRON. | | |
| 100 tons muck bar | $44 00 | —cash. |

### San Francisco.

From the *Commercial Herald*, Aug. 13.

As intimated in our last issue, the stock of Scotch Pig Iron, here and to arrive, has been concentrated in few hands, and prices put up. The steamer *Macgregor*, from Sydney, brought us an invoice of 50 ingots and 40 slabs tin. We note a sale to the ship *Governor Morton*, from second hands, of 300 sheets Yellow Sheathing, in bond, private- say 20@22c. The *I. L. Stephens*, from Oregon, brought us 36 tons Pig Iron. This we quote at $45. Quicksilver—Last week we noted an advance in the London market to £22 per flask. Since then the quotation comes through a shade higher, say £22@£23. The present price in this market is $1 45; the demand largely exceeding the supply. It is said that the stock in England is less than two months' requirement of the trade.

## METALS.

NEW YORK, Aug. 28, 1874.

***Gold Coin.***—During the week past, gold has ranged from 110 to 109¾ and closed yesterday at 109¾.

***Bullion.***—Fine silver bar is quoted at $1 26½@$1 27½, gold, per ounce, and fine gold bar at par ($20 67, gold, per ounce.)

***Copper.***—The copper market is still disturbed by the operations of what may be termed the "combination;" the agent of the Calumet and Hecla mines, together with the bankers who control the HOLMES & LISSBERGER lot, are forcing prices. We hear of large sales for export, but they appear rather shadowy, the desire being to give an appearance of strength to the market. There appears little doubt the combination can force prices here to even above 20 cents, which is now quoted, but the country cannot use the stock on hand, and the exported copper can scarcely net over 18½c. here. Quotations are nominal—20c. for Lake. Messrs. JAMES & SHAKSPEAR report under date London, Aug. 14th, as follows:

"Nothing has transpired in furnace material by private contract except 111 tons Regulus and 137 Ore at 15/ and 14/ 6d. per unit respectively.

"In Chili bars we note transactions at £76 to £76 10/ for good ordinary brands, cash or short arrival; and a few lots of picked marks at £77 cash. The market is in a very uncertain condition, and it would need but a comparatively trifling circumstance to influence prices in either direction.

"The Chili charters for the last half of July were advised by telegram on the 8th inst. as 1,100 tons pure, but no details have come to hand. Although this quantity was light, it produced no particular effect on the market, there being so many rumors of fresh shipments of Lake Ingots, none of which reports, as far as we can learn, having any solid foundations.

"For Australian sorts we note a rather improved demand, and buyers have been compelled to pay the rates demanded by sellers.

"English is quiet, but Smelters are firm, and refuse all orders offered them below our list quotations."

Best selected ingot £85@£86.

***Tin.***—The market is dull, quotations nominal. Straits 22½; English refined, 21½; L. and F. 20¾, all gold. Messrs VIVIAN, YOUNGER & BOND report as follows, London August 14:

"The sales for the week amount to about 120 tons of Straits at prices varying from £92 10/ to £94 10/ for cash, and to arrive, and 130 tons of Australian at £91 to£93 cash, closing at £94 for Straits, and £92 for Australian. 300 slabs of Banca were done yesterday at £93, Dutch Warrants. There has been a fair enquiry for English, and after prices had receded to £95 to £95 10/, at the close the Smelters are firm at £97 for common Ingot."

***Tin Plates.***—Have been in fair demand during the week. We quote, I. C. Charcoal at $10@$10 50, gold.

***Spelter.***—May be quoted dull at 6¾c.@7c. for domestic. Foreign nominally 6½@6¾, gold.

***Zinc.***—The market is inactive. Prices may be quoted for sheets at 8c@8½c., gold.

***Lead.***—The lead market is unchanged with sales of a lot of 460 tons at the equivalent of Government prices. We quote $5 70@$5 75, gold, by dealers; $5 65, gold, by Government.

***Antimony.***—Light demand and prices unchanged at 11½@11¾c. gold.

***Manganese.***—There is a brisk demand for all kinds used by steel and glass manufacturers and linseed oil boilers and prices range advancing. N. B. Manganite 80 per cent—5c.; Ga. Soft Manganite, 4½c.; Va. Psilomelane, 3½c.; Saxony Pyrolusite, 7c.

***Quicksilver.***—In the English market the price is £23 per flask. In the New York market the demand is fully up to the supply, and the price is $1 60 per lb. In San Francisco $1 45 per lb.

### San Francisco Stock Market.

BY TELEGRAPH.

NEW YORK, August 27, 1874.

The following report from the San Francisco Stock Board is dated the 25th inst. Raymond & Ely remains as last reported; the remaining portion of the list has advanced. An assessment of $3 per share has been levied by the Raymond & Ely Company, delinquent September 23.

| | | | |
|---|---|---|---|
| Savage | 60 | Imperial | 8½ |
| Crown Point | 78 | Raymond & Ely | 10 |
| Yellow Jacket | 82 | Meadow Valley | 5½ |
| Kentuck | 16 | Eureka V. G. Bid | 7½ |
| Gholiar Potosi | 55 | Ophir | — |
| Gould & Curry | 22 | Hale & Norcross | — |
| Belcher | 69 | | |

### Boston Stock Market.

BOSTON, August 26, 1874.

Annexed are the prices bid for copper stocks at the closing of the Boston Stock Board. As compared with our last report the list has advanced. The sales during the day were comprised in a transfer of 100 shares of Allouez at $8 50. The *Stockholder* says with regard to the Calumet and Hecla Mining Company, that it is the most flourishing of our copper companies, and that it is a combination of two mines known by these names respectively, has 80,000 shares of stock, worth at present prices $10,180,000. It is stated in a Boston paper, as from "the report rendered at the annual meeting held recently," that, for the season of 1873, 15,392,000 pounds of copper were sold, netting 26 40-100 cents a pound. The expenses of marketing were .01 37-100, and of smelting and barrelling .01 27-100 a pound. The assets of the Company over liabilities are $2,253,545. The mine never looked better, and is opened five years in advance."

| | | | |
|---|---|---|---|
| Allouez | 9½ | Pewabic | 6 |
| Calumet and Hecla Co. | 128 | Phœnix | 13 |
| Copper Falls | 12 | Quincy | 30¾ |
| Central | 25 | Ridge | 5 |
| Franklin | 4 | Rockland | 1¼ |

### New York.

August 28, 1875.

The following list of stocks which will be found of interest to our readers, represents yesterday's quotations at the New York and Philadelphia Stock Boards. With but few exceptions the market is stronger, as compared with our last. The sales yesterday at the New York Stock Exchange were as follows: 100 shares of D. L. & W. R. R. at 108⅞, and 800 shares of Quicksilver Mining Company at from $29 to $30.

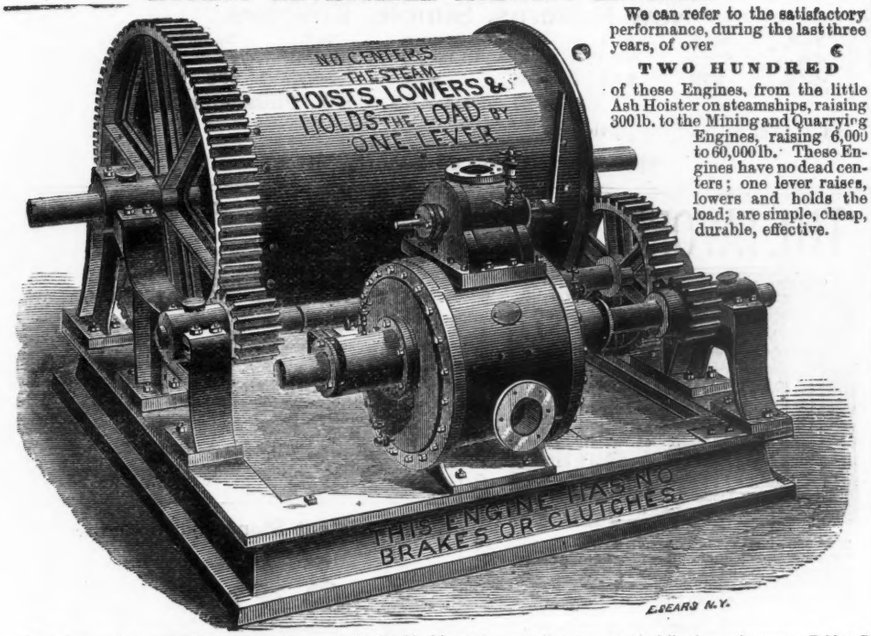
| | Bid. | Asked. |
|---|---|---|
| New Jersey Central R. R. Co | 105⅝ | 106 |
| American Coal Co | 60 | 65 |
| Maryland Coal Co | 18 | 19 |
| Pennsylvania Coal Co | 230 | 250 |
| Quicksilver Mining Co | 29¾ | 30 |
| Spring Mt. Coal Co | .... | 67 |
| Philadelphia and Reading R. R. Co | 110½ | 111¼ |
| Delaware and Hudson Canal Co | 113 | 113⅞ |
| Lehigh Coal and Navigation Co | 44⅞ | 45 |
| Lehigh Valley R. R. Co | 61 | 61¼ |
| Catawissa Preferred | 42½ | 43 |
| Delaware, Lackawana and West. R.R.Co. | 108¾ | 109 |
| Consolidated Coal Co | .... | 45¼ |
| Little Schuylkill R. R | .... | 46⅝ |
| Huntington & Broad Top R. R. prefrd | .... | 13 |


## FOR COTTON-LOOM MAKERS.

A German house, with first class references, wishes to enter into connection with makers of Cotton-Looms, respecting the sale of the latter on the Continent. Apply to H., 33864, care of

**Messrs. HAASENSTEIN & VOGLER'S**
ADVERTISING AGENCY IN BERLIN, (Germany.

## ROTARY REVERSIBLE HOISTING ENGINES.




We can refer to the satisfactory performance, during the last three years, of over

**TWO HUNDRED**

of these Engines, from the little Ash Hoister on steamships, raising 300 lb. to the Mining and Quarrying Engines, raising 6,000 to 60,000 lb. These Engines have no dead centers; one lever raises, lowers and holds the load; are simple, cheap, durable, effective.

We ask those looking for Hoisting Engines, and Mining Machinery to consult either of the following references: Eckley B. Coxe, Proprietor of Cross Creek Collieries, and Manager of the Am. Inst. of Mining Engineers, Jeddo, Luzerne Co., Pa; J. H. Lyon, Pres't. Straitsville Coal Mines, Office 115 Broadway, New York; Geo. F. Bass, Pres't. Central Vermont Marble Co., Post Office Cleveland, Ohio; Ingersoll Rock Drill Co., No. 5 Park Place, New York; Gilbert Fowler, Chief Engineer Pacific Mail Steamship Co., Pier 42 North River, N. Y.; S. F. Shortland & Bro., Steam Lighters, 106 Wall st., New York; Divine Burtis, Jr., Contractor, Brooklyn, N. Y.; Wm. A. Lighthall, Consulting Engineer, Office 5 Bowling Green, N. Y.; Erastus W. Smith, Consulting Engineer, Office 42 Dominick st., New York. Every Engine fully warranted. Made only by

**LIDGERWOOD MANUFACTURING CO.,**
**165 Pearl Street, New York.**

SEND FOR CIRCULAR.

## MISCELLANEOUS.

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FACULTY.—F. A. P. BARNARD, S.T.D., LL.D., PRESIDENT. T. EGLESTON, JR., E. M., Mineralogy and Metallurgy; F. L. VINTON, E. M., Civil and Mining Engineer; C. F. CHANDLER, PH. D., Analytical and Applied Chemistry; JOHN TORREY, M.D., LL.D., Botany; C. A. JOY, PH. D., General Chemistry, W. G. PECK, LL.D., Mechanics; J. H. VAN AMRINGE, A.M., Mathematics; O. N. ROOD, A.M., Physics; J. S. NEWBERRY, M.D. LL.D., Geology and Paleontology. Regular courses in Civil and Mining Engineering; Metallurgy; Geology and Natural History; Analytical and Applied Chemistry. Special students received for any of the branches taught. Particular attention paid to Assaying. For further information and catalogues, apply to

DR. C. F. CHANDLER,
Dean of the Faculty.

Nov. 21:1y

1776 1876

# INTERNATIONAL EXHIBITION.

OFFICE OF THE
U. S. CENTENNIAL COMMISSION,
PHILADELPHIA, PA,

In accordance with the several Acts of Congress of the United States, providing for the celebration of the

## CENTENNIAL ANNIVERSARY

of American Independence, there will be held in FAIRMOUNT PARK, Philadelphia, in the year 1876, an

## INTERNATIONAL EXHIBITION

Arts, Manufactures, and Products of the Soil and Mine.

The Exhibition will be opened on the 19th of April and closed on the 19th of October.

## APPLICATIONS FOR SPACE.

To secure space for exhibits in the Buildings or the Park, early application should be made. The necessary forms for application, together with the Regulations for Exhibitors and needed information, will be forwarded on application to the Office of the Centennial Commission.

A. T. GOSHORN,
*Director-General.*

J. L. CAMPBELL,
*Secretary.*

# Diamond-Pointed ROCK DRILLS

Recent improvements in connection with the celebrated LESCHOT'S patents have increased the adaptability of these drills to every variety of ROCK DRILLING. Their use, both in this country and in Europe, has sufficiently established their reputation for efficiency and economy, over any other now before the public.

The Drills are built of various sizes and patterns, WITH and WITHOUT BOILERS, and bore at a uniform rate of THREE TO FIVE INCHES PER MINUTE in hard rock.

They are adapted to CHANNELLING, GADDING, SHAFTING, TUNNELLING and open cut work; also to DEEP BORING for TESTING the VALUE OF MINES and QUARRIES. TEST ORES taken out, show the character of mines at any depth. Used either with steam or compressed air. Simple and durable in construction and never need sharpening.

Manufactured by

THE AMERICAN DIAMOND DRILL CO.,
No. 61 Liberty street,
New York.

Jan31

## The Fletcherville Blast Furnace Co.

Manufacture Charcoal Pig Iron exclusively from New-Bed Pure Magnetic Ore, suitable for Bessemer, Malleable and Car-wheel purposes, or for Foundry use where very soft and strong iron is required.

| *Analysis of Average New Bed Pure Ore.* | | *Analysis of No. 1 Bessemer Pig.* | |
|---|---|---|---|
| Metallic iron | 68.24 | Undetermined matter and loss | .134 |
| Oxygen with the iron | 26.01 | Silicon | 1.019 |
| Water | .38 | Carbon | 3.821 |
| Insoluble Siliceous matter | 4.32 | Phosphorus | .048 |
| Sulphur practically | none. | Sulphur practically | none. |
| Phosphorus | .038 | Calcium | .140 |
| Alumina | .28 | Metallic iron | 94.838 |
| Lime | .14 | | 100.000 |
| Undetermined matter and loss | .592 | | |
| | 100,000 | | |

**WITHERBEE'S & FLETCHER,**
**Port Henry, Essex County, N. Y.**
**Furnace at Fletcherville, near Mineville, N. Y.**

## MISCELLANEOUS.

# RIEHLE BROS.,
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New York, 93 Liberty St., Pittsburgh Store, 285 Liberty Street.

# SCALES

The Celebrated Stock House Scale, New Style Testing Machines. All Sizes. Iron Lever Railroad Track Scales. Patented First Power Lever Wagon Scale, for Coal Dealers. Parallel Crane Beams and Mortising Machines. Hydraulic Jacks.

FOR SALE.—AN UNFINISHED IRON, TWIN SCREW STEAM VESSEL, having double bottom and water-tight compartments.

| | |
|---|---|
| Length between Perpendiculars | 390 feet. |
| Breadth of Beam | 45 " |
| Depth to Main Deck | 24⅜ " |
| Displacement at 22 feet draught | 6,000 tons |
| Area of Midship Section | 800 sq. ft. |
| Number of Transverse Bulkheads | 7 |
| **ENGINES.** | |
| Two pairs, each pair driving one Screw. | |
| Diameter of Steam Cylinder | 72 inches. |
| Stroke of Piston | 45 " |
| Surface Condensers, area | 12,560 sq. ft |
| **SCREWS.** | |
| Diameter | 18 feet. |
| Pitch | 27 " |
| Number of Blades | 3 |
| **BOILERS.** | |
| Ten in number; Ordinary Horizontal Fire Tubular Type. | |
| Total Heating Surface | 28,000 sq. ft. |
| Grate Surface | 876 " |

This vessel was intended to be completed for the State of New Jersey as an Ironclad. The plans were prepared and the work was carried on under the direction of Gen. George B. McClellan, U. S. A. All materials, and the workmanship are guaranteed to be of the best possible description.

The funds appropriated for the purpose of completing the vessel not proving sufficient, the Legislature of the State of New Jersey has directed that a sale be made to the highest bidder. A Commission consisting of

*His Excellency Gov.* JOEL PARKER, of Trenton,
*Vice Chancellor* AMZI DODD, of Newark,
*Honorable Messrs.* W. W. SHIPPEN, and S. B. DOD, of Hoboken,

has been appointed to effect such sale.

Bids endorsed "PROPOSALS FOR PURCHASE OF IRON STEAMER, OR OF PARTS THEREOF," may be addressed to the GOVERNOR OF THE STATE OF NEW JERSEY, by whom they will be received at Trenton, N. J., until 12 o'clock M., on the second day of November next, at which time they will be publicly opened.

Blanks for proposals, and a pamphlet containing a detailed description of the vessel, as nearly completed, except as to armor and armament, may be obtained by addressing either member of the Commission or the undersigned.

Permission to examine the vessel, and to inspect the premises, may be obtained (by intending purchasers) on application at the Dry Dock, where the ship now lies, or to the consulting Engineer to the Commission, who will be prepared to exhibit drawings, to explain the structure of hull and machinery and to give any other information respecting the vessel.

R. H. THURSTON,
*Consulting Engineer to the Commission, Hoboken, New Jersey.*

# WM. B. BEMENT & SON
MANUFACTURERS OF
# MACHINISTS TOOLS
OF ALL DESCRIPTIONS.
PHILADELPHIA, PA.

# BALTIMORE COPPER WORKS
*(Canton.)*
**POPE, COLE & CO.**

ARE NOW PURCHASING

## COPPER ORES,

and smelting and refining at these extensive works, where, with experienced workmen and extraordinary facilities, we are turning out Ingot and Cake Copper of unequalled purity and toughness.

We are prepared to buy *Ores*, Matte, Regulus and other furnace material, in any quantities.

At *Salt Lake City*, Mr. Geo. J. Johnson, our representative, will receive, sample, assay and pay cash for ores of that vicinity.

In *San Francisco* we are likewise represented by Mr. Horace D. Ranlett, 218 California street.

Office, No. 57 South Gay street, *Baltimore, Md.*

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COXE BROS. & CO., CROSS CREEK COLLIERY, MINers and Shippers of the Celebrated

Cross Creek Free Burning Lehigh Red Ash COAL.

FROM THE BUCK MOUNTAIN VEIN.

Unexcelled for Steam, Sugar House and Domestic use.

WESTON, DODSON & CO., Sole Agents,

General Office: Bethlehem, Pa.
Branch Office: 206 South Fourth street, Philadelphia,
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Room 16 and 18 Trinity Building.

## WILKESBARRE COAL,

DELIVERED DIRECT FROM THE MINES OF

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Dec. 23-1y

C. A. BLAKE & CO.,

Agents for the sale of

Hillside Coal and Iron Company's

## COAL.

Docks for the receiving and shipping of Coal and other heavy freights,

OFFICES:

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## RED BANK MINING COMPANY

ARE PREPARED TO SUPPLY THEIR

## GAS COAL AND CANNEL

rom their Colliery near Bethlehem, Clarion County, Pa. These mines are situated directly on the line of the Bennett Branch of the Alleghany Valley R. R. (just completed) and only 20 miles from its junction with the Main Line at Red Bank. This position enables them to supply Gas Companies **n any part of New York State, and Northern Pennsylvania, by Rail direct from the Colliery at all seasons of the year**—or to points on the **Canals or Lakes,** during navigation *via* **Buffalo or Erie.**

The **Gas Coal** (Red Bank Orrel) is specially adapted to **Gas Manufacture,** its yield being as large as that of any Caking Coal in the market, of easy purification and good illuminating power.

**The Cannel** is superior to any of the Ohio Cannels, obtainable and can be delivered in any required quantity, from one car and upwards. For particulars as to price, etc., apply to

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DETMOLD & COX,

## ANTHRACITE AND BITUMINOUS COALS.

OFFICE:

40 TRINITY BUILDING, NEW YORK.

January 23:1y

BORDA & KELLER,

## KOH-I-NOOR COAL.

Old Company—Lehigh—Wilkes-Barre—Plymouth, Red Ash—on board at Philadelphia.

OFFICES:

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77 State St., } Boston,
3 Doane St., }
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## "GIFFARD'S INJECTOR" BOILER FEEDER—Sellers' New Improvements.

New Patterns, Simple, Effective.

| No. 2. | No. 3. | No. 4. | No. 5. | No. 6. | No. 7. | No. 8. | No. 10. |
|---|---|---|---|---|---|---|---|
| 10 H. P. | 25 H. P. | 45 H. P. | 70 H. P. | 100 H. P. | 140 H. P. | 190 H. P. | 275 H. P. |
| $18. | $25. | $35. | $45. | $55. | $65. | $75. | $95. |

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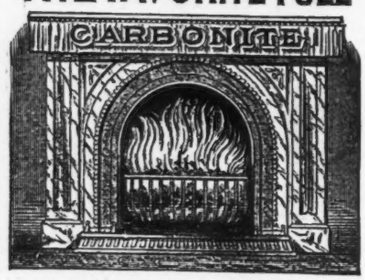
Send for circular giving particulars.

New York Office, 93 Liberty Street.

## THE FAVORITE FUEL

Combining all the Merits of Cannel and Anthracite without their Faults.




IT BURNS FREELY, LIKE CANNEL COAL WITHOUT SMOKE, SULPHUR, or BITUMINOUS ODOR ENDURING LONGER THAN ANTHRACITE. NINETY-SIX PER CENT. COMBUSTIBLE. TWO AND ONE-QUARTER PER CENT. ASHES.

THE JAMES RIVER COAL CO.,
Room E, 111 Broadway, New York,
and 8 Pemberton Square, Boston.

FREDERIC A. POTTS,

WHOLESALE

## COAL AND IRON MERCHANT.

ANTHRACITE AND BITUMINOUS COALS,

Embracing Old Company Lehigh (Summit Hill), Room Run, (Free Burning White Ash), Plymouth Wyoming Red Ash Coal, also the celebrated Baltimore vein Wilkesbarre Coal, Hampshire and Barton George's Creek Coal.

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July 4-1y

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BORDEN & LOVELL,

## CUMBERLAND COAL,

FOR RAILROAD, STEAMSHIP AND GENERAL USES.

Unexcelled in quality by any from this region. Shipments made at Georgetown, D. C.; Baltimore, Md.; South Amboy, N.J

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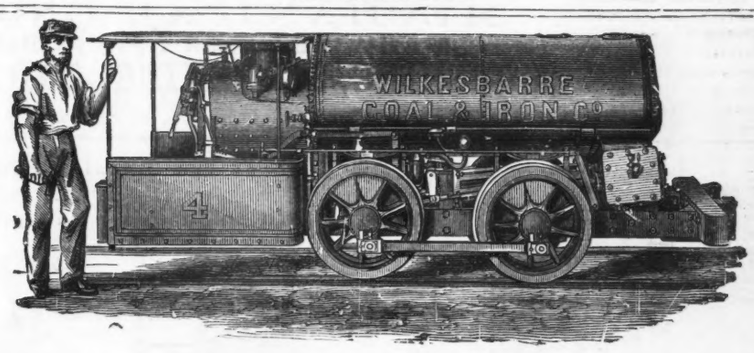


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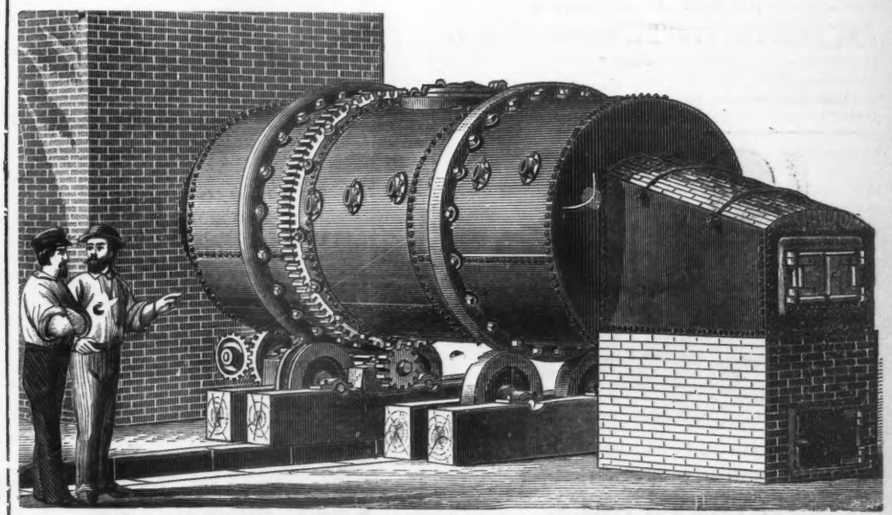

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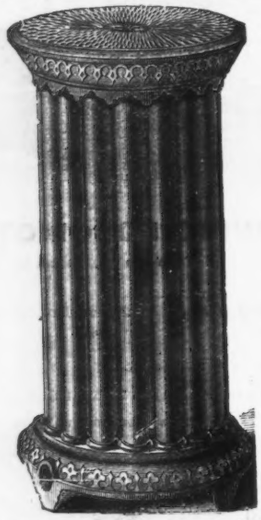

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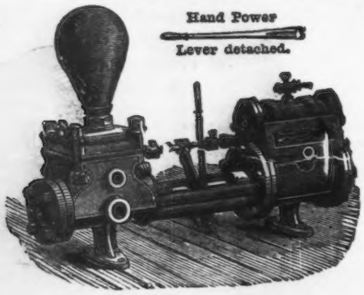


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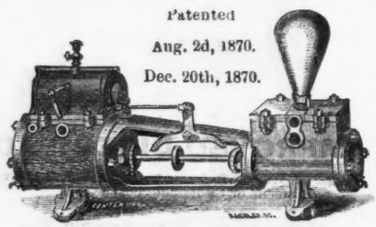

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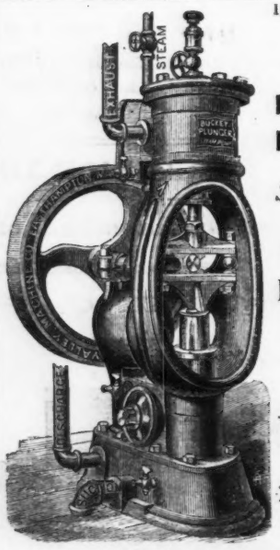


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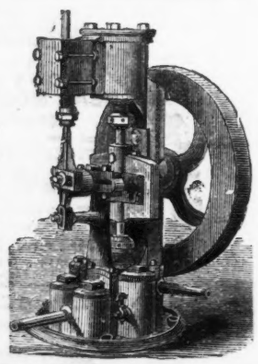

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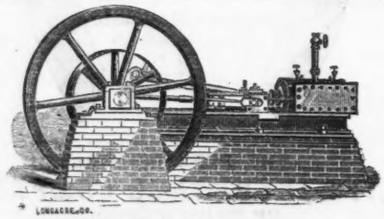

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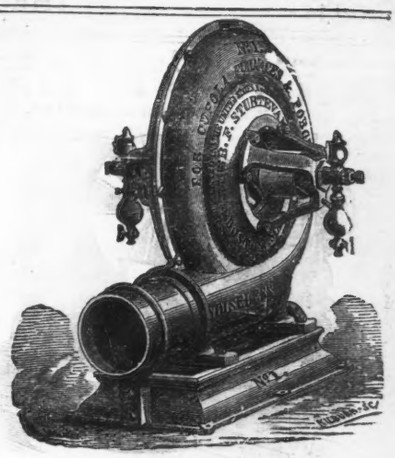

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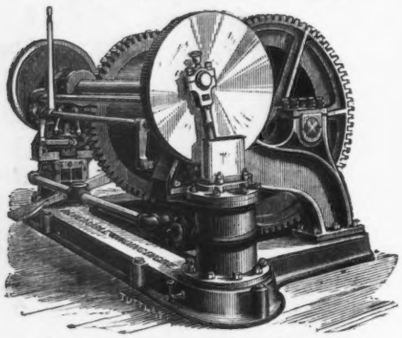

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|---|---|---|---|---|
| First Week, | feet, | 459½ | 288 | ..... |
| Second " | " | 459 | 257 | 136 |
| | | 918½ | 545 | 136 |

1841. 1874.
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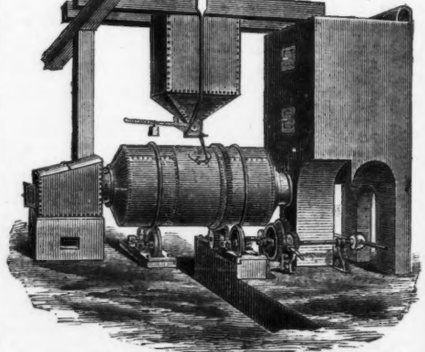

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